GIVAUDAN-DELAWANNA INC.

LE CHIMISTE
De la Galerie de S.A.S. Monseigneur le Duc d'Orléans

80, FIFTH AVENUE_NEW-YORK

ROSE ROUGE No. 2

$9.50 per pound

This very versatile product is recommended for use in cream, powder, soap odors, and your low priced extracts.

It possesses a distinctive odor of the French Rose, and may be used as is, or as a base or constituent of your own formulae.

It is very lasting and retains its original character to the end.

It does not cause discoloration.

GIVAUDAN-DELAWANNA

INCORPORATED

80 FIFTH AVENUE NEW YORK, N. Y.

Buyers' Guide

The firms listed below are reliable sources of supply which we are glad to recommend to our readers.

Medicinal Chemicals
Abbott Laboratories
Benzol Products Co.
California Fruit Growers Exchange
Dow Chemical Co.
Heyden Chemical Corp.
Mallinckrodt Chemical Works
Merck & Co., Inc.
Monsanto Chemical Works
N. Y. Quinine & Chemical Works
Chas. Pfizer & Co., Inc.
Schuylkill Chemical Co.
Sherka Chemical Co.

Alcohol
A. K. Hamilton
Rossville Commercial Alcohol Corp.
U. S. Industrial Alcohol Co.

Alkaloids
Abbott Laboratories
Mallinckrodt Chemical Works
Merck & Co., Inc.
N. Y. Quinine & Chemical Works

Bromides
Mallinckrodt Chemical Works
Merck & Co., Inc.
N. Y. Quinine & Chemical Works

Citric Acid
H. J. Baker & Bro.
California Fruit Growers Exchange
Dodge & Olcott Co., Inc.
Mallinckrodt Chemical Works
Merck & Co., Inc.
N. Y. Quinine & Chemical Works
Chas. Pfizer & Co., Inc.

Glandular Products
Wilson Laboratories

Hydrogen Peroxide
Schuylkill Chemical Co.

Magnesia
Schofield-Donald Co., Inc.

Quinine
Mallinckrodt Chemical Works
Merck & Co., Inc.
N. Y. Quinine & Chemical Works

Salicylates
Dow Chemical Co.
Heyden Chemical Corp.
Mallinckrodt Chemical Works
Merck & Co., Inc.
Monsanto Chemical Works
N. Y. Quinine & Chemical Works

Aromatic Chemicals
W. J. Bush & Co., Inc.
California Fruit Growers Exchange
Dodge & Olcott Co., Inc.
P. R. Dreyer, Inc.
E. I. du Pont de Nemours & Co., Inc.
Benj. French, Inc.
Fritzsche Brothers, Inc.
General Drug Co.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Compagnie Parento, Inc.
Sherka Chemical Co.
A. M. Todd Co.
Ungerer & Co.
van Ameringen-Haebler, Inc.

Essential Oils
W. J. Bush & Co., Inc.
California Fruit Growers Exchange
Dodge & Olcott Co., Inc.
P. R. Dreyer, Inc.
Fritzsche Brothers, Inc.
Magnus, Mabee & Reynard, Inc.
Compagnie Parento, Inc.
A. M. Todd Co.
Ungerer & Co.
van Ameringen-Haebler, Inc.

Flavors
W. J. Bush & Co., Inc.
California Fruit Growers Exchange
Dodge & Olcott Co., Inc.
P. R. Dreyer, Inc.
Fritzsche Brothers, Inc.
A. K. Hamilton
Magnus, Mabee & Reynard, Inc.
Monsanto Chemical Works
Compagnie Parento, Inc.
Ungerer & Co.
van Ameringen-Haebler, Inc.

Cod Liver Oil
W. Benkert & Co., Inc.
P. R. Dreyer, Inc.

Mineral Oil
M. W. Parsons, Imports
S. Schwabacher & Co., Inc.

Turtle Oil
W. J. Bush & Co., Inc.
Compagnie Parento, Inc.
M. W. Parsons, Imports

Cosmetic Materials
Mallinckrodt Chemical Works
Merck & Co., Inc.
M. W. Parsons, Imports
John Powell & Co., Inc.
R. F. Revson Co.

Cosmetics (Private Brand)
Sterling Manufacturing Co.

Botanical Drugs
W. Benkert & Co., Inc.
J. L. Hopkins & Co.
Peek & Velsor, Inc.
S. B. Penick & Co.

Absorption Bases
Th. Goldschmidt Corp.
M. W. Parsons, Imports

Beeswax
E. A. Bromund Co.
Theodor Leonhard Wax Co., Inc.
M. W. Parsons, Imports
Will & Baumer Candle Co.

Chalk
Industrial Chemical Sales Co., Inc.
John & E. Sturge, Ltd.
Universal Gypsum & Lime Co.

Colors
Interstate Color Co., Inc.
R. F. Revson Co.

Gums
Thurston & Braidich

Lanolin
American Lanolin Corp.
Bopf-Whittam Corp.
Th. Goldschmidt Corp.

Stearates
Franks Chemical Products Co.
Mallinckrodt Chemical Works
M. W. Parsons, Imports

Titanium Dioxide
Titanium Pigment Co.

Zinc Oxide
New Jersey Zinc Co.

Containers & Machinery

Bottles
Carr-Lowrey Glass Co.
Hart Glass Mfg. Co.
Maryland Glass Corp.
Owens-Illinois Glass Co.
Pennsylvania Glass Products Co.

Boxes
Cleveland Container Co.
C. F. Hatch Co.

Collapsible Tubes
Art Tube Co., Inc.
National Collapsible Tube Co.

Glassine Paper
Riegel Paper Corp.

Packing Material
Kimberly-Clark Corp.

Vials
Kimble Glass Co.

Corks
Armstrong Cork & Insulation Co.

Metal Caps
Aluminum Seal Co.
Anchor Cap & Closure Corp.
Armstrong Cork & Insulation Co.
Consolidated Safety Pin Co.
Crown Cork & Seal Co.
Ferd. Gutmann & Co.
Phoenix Metal Cap Co.

Molded Caps & Containers
Anchor Cap & Closure Corp.
Armstrong Cork & Insulation Co.
Beetleware Corp.

Liners
Armstrong Cork & Insulation Co.
Bond Mfg. Corp.

Capping Machinery
R. G. Haskins Co.
U. S. Bottlers Machinery Co.

Filling Machinery
Alsop Engineering Corp.
Arthur Colton Co.
Karl Kiefer Machine Co.
Geo. G. Rodgers Co.
Chas. Ross & Son Co.
F. J. Stokes Machine Co.
Stokes & Smith Co.
U. S. Bottlers Machinery Co.

Mixing Equipment
Alsop Engineering Corp.
Arthur Colton Co.
Geo. G. Rodgers Co.
Chas. Ross & Son Co.
F. J. Stokes Machine Co.

MM&R Packaged Essential Oils

Adoption of MM&R packages for sale to the retail drug trade through the wholesaler rests primarily on the correct preservation of the contents, secondly on the convenience of use for the ultimate consumer.

Members of the MM&R Package Family all bear a close resemblance in neatness, style of package and labeling, etc. They also resemble each other in wholesome goodness of quality, flavor and odor.

MM&R Essential oils are either manufactured from basic raw materials in the MM&R Laboratories, or received from the foremost producers in practically every country in the world. Obtainable in all size packages.

Flavors

Consumers of MM&R Concentrated Flavors now receive a two-fold benefit by their use:—our laboratories having improved the qualities of the leading items and the price reduction based on increased output and lower cost of raw materials is now in effect.

Mohawk Oil Peppermint

Constantly gaining in favor and sales volume. Shrewd manufacturers specify it as a product of unexcelled odor and delicacy of flavor—because it is redistilled by MM&R from specially selected natural oils—because it is protected by the famous MOHAWK seal. All size packages.

MM&R Terpeneless Essential Oils

Manufactured from highest quality, selected natural oils, they are recommended where solubility and uniformity are factors. For specific purposes they have many advantages over the natural oils. They do not deteriorate as readily, therefore better withstand exposure to the air and greater subjection to heat in manufacturing processes.

MAGNUS, MABEE & REYNARD, INC.

Microscopic Specialties
Aromatic Chemicals
Perfume Oils
Oleoresins
Balsams

"Links The Market With The Manufacturer"

Certified Food Colors
Paragon Olive Oil
Essential Oils
Infused Oils
Rosesol

32 Cliff Street, New York City

444 W. Grand Ave., Chicago, Ill.

Each side of the DuoOval is adapted to different label shapes.

The DUO-OVAL... *a distinguished container of two-fold usage*

● In the DuoOval, our designers have created a bottle of striking charm and exceptional beauty of line. But they have gone farther . . . they have given this new bottle a most unusual feature:—*"dual appearance."* Thus each face is adapted to varied label treatment.

This means that the DuoOval enables you to package two different products in one type of container—giving each strongly marked identification by labeling.

Because of its unusual characteristics, we have not deemed it advisable to offer the DuoOval as a regular stock item. It will be manufactured only to the special order of those whose requirements justify large volume production.

Owens-Illinois Glass Company . . Toledo, Ohio.

OWENS-ILLINOIS

1873 • SIXTIETH ANNIVERSARY • 1933

1/3 OF YOUR MARKET

The farm woman buys the drugs and cosmetics for 35.8% of the population of the nation.

Check your sales. See if from 30% to 40% does not come from rural customers. If less, something may be wrong.

The farm woman represents one-third of the American market.

One magazine, and one magazine only, is published exclusively for her.

THE
FARMER'S WIFE
Webb Publishing Company
NEW YORK SAINT PAUL CHICAGO

The makers of these products are cultivating this great market . . .

LISTERINE TOOTH PASTE	LISTERINE
SCOTT'S EMULSION	SLOAN'S LINIMENT
PEPSODENT TOOTH PASTE	FROSTILLA
LUX TOILET SOAP	MENNEN'S BABY OIL
VICKS	DR. SCHOLL'S ZINO-PADS
LAVA SOAP	JOHNSON'S BABY POWDER

LET UNCLE SAM INCREASE YOUR BUSINESS

PUT Uncle Sam to work in your sales department! Let him introduce your products, in sample form, to your prospective buyers—at a postage cost of only a few cents each.

Sampling has come into its own today. It is the one direct means of showing your products to thousands who really want to see them. And what better carrier can you employ for this purpose than Kimble Glass Vials, with their light weight and consequent mailing economy, their crystal attractiveness, their colorful caps or closures, and their ease of packing and handling. Kimble Vials are automatic-machine-made, retempered for strength and durability, and are available in a wide variety of sizes, styles and closure designs.

Outstanding leaders in the drug, pharmaceutical, perfume and kindred industries are today standardizing on Kimble Glass Vials and other small glass containers for both sampling and packaging. It will pay you valuable dividends to consult with the Kimble research and sales departments on your particular sampling and packaging problems. Fully illustrated Kimble Vial Catalog—complete with prices and specifications—mailed promptly on request.

KIMBLE GLASS COMPANY

VINELAND, NEW JERSEY.

NEW YORK • PHILADELPHIA • BOSTON • CHICAGO • DETROIT

A Complete Service

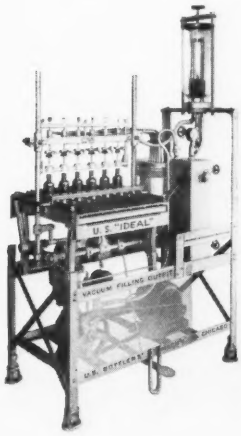
FOR Washing

For washing, rinsing and sterilizing a large variety of bottles, jars and other containers at a capacity of from 60 to 120 per minute, few washers enjoy the popularity of this model. It is built of the finest material available. BOWL of boiler plate steel drop forged in one piece. All water contact parts before reaching the container are of bronze or brass construction, insuring life-time operation.

If interested in more automatic equipment, investigate the

PARAGON for narrow mouth ware, or the
CASCADE for wide mouth ware

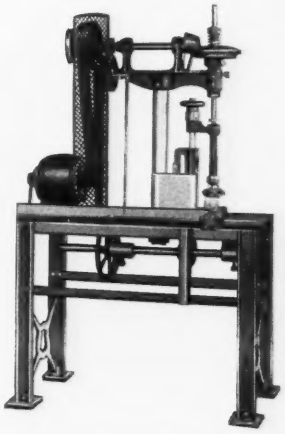
FOR Filling



For the handling of a large variety of containers, the U. S. Vacuum Filler is unsurpassed. The use of this machine requires no cumbersome trays. The machine is quickly adapted to either CT and Cork Finish or AGST ware. Regardless of your production requirements, there is a U. S. Filler built to meet your demand. Investigate the

HAND VACUUM FILLER
STRAIGHTLINE FILLER
or
ROTARY AUTOMATIC FILLER

FOR Capping



To apply caps properly they must be tight, but not too tight. Unless you can adjust the cap tension you are uncertain of having the proper seal. All U. S. Cappers incorporate in their design the adjustable friction tension feature. There is a U. S. Capper to meet your production requirements. Write for information regarding

HAND—SEMI-AUTOMATIC
or
AUTOMATIC Machines

DRUGS
MEDICINES
PHARMACEUTICALS
ANTISEPTICS
TOILET PREPARATIONS
EXTRACTS
FOOD PRODUCTS
FRUIT JUICES
CONDIMENTS

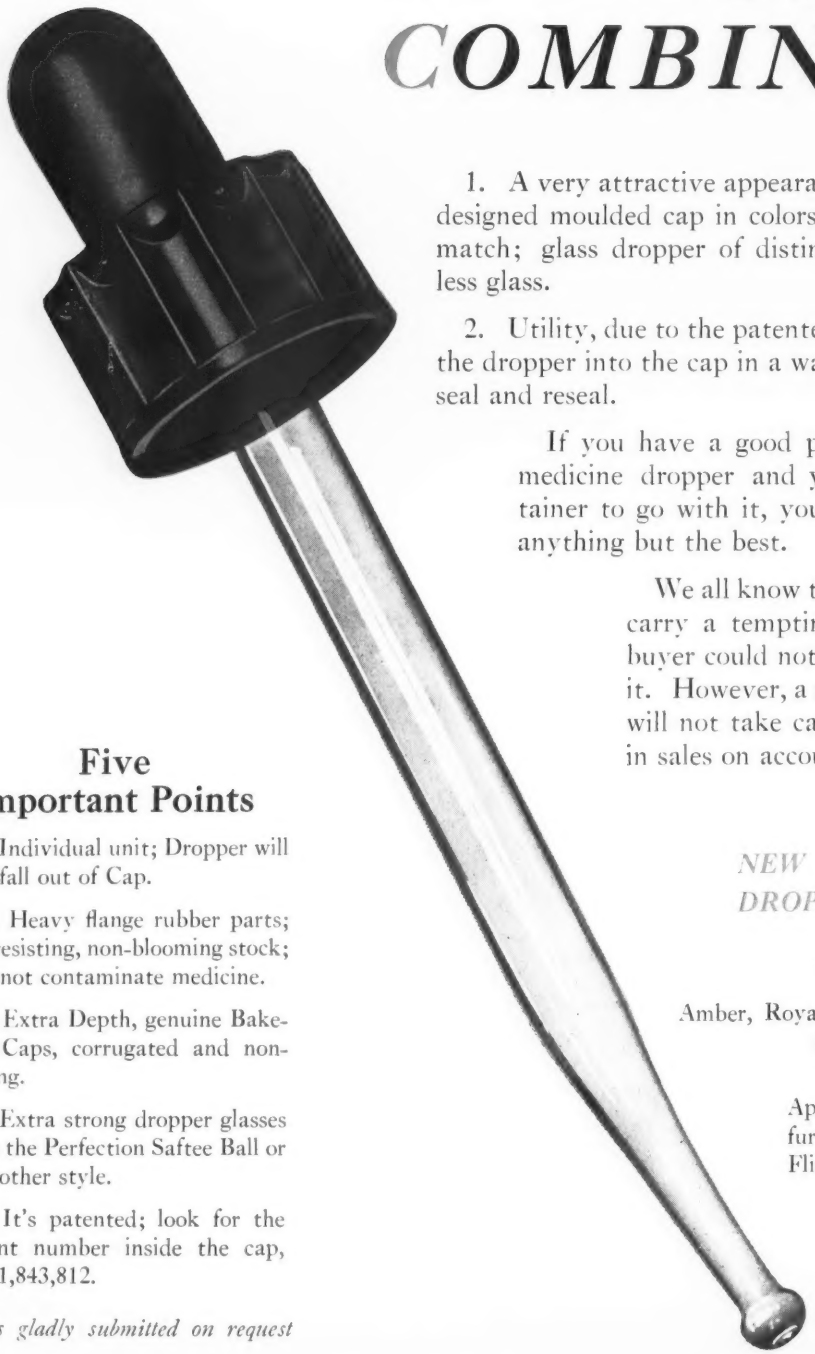
U.S. BOTTLERS MACHINERY CO. INC.

Filling, Washing and Capping Equipment

4015-31 No. Rockwell St. · · · · Chicago, Ill.

Handles Them All

This Dropper *COMBINES...*



1. A very attractive appearance due to a beautifully designed moulded cap in colors; colored rubber top to match; glass dropper of distinctive design and flawless glass.

2. Utility, due to the patented feature which secures the dropper into the cap in a way to secure an absolute seal and reseal.

If you have a good product that requires a medicine dropper and you want a good container to go with it, you can not afford to use anything but the best.

We all know that an imitation has to carry a tempting price, otherwise the buyer could not be induced to consider it. However, a slight difference in price will not take care of a great reduction in sales on account of lost prestige.

Five Important Points

- *1st.* Individual unit; Dropper will not fall out of Cap.
- *2nd.* Heavy flange rubber parts; Oil resisting, non-blooming stock; will not contaminate medicine.
- *3rd.* Extra Depth, genuine Bakelite Caps, corrugated and non-rolling.
- *4th.* Extra strong dropper glasses with the Perfection Saftee Ball or any other style.
- *5th.* It's patented; look for the patent number inside the cap, No. 1,843,812.

Samples gladly submitted on request

NEW PERFECTION DROPPING OUTFITS

supplied with

Amber, Royal Blue, Flint and Emerald Green Bottles.

Applicator Outfits can also be furnished with Amber, Blue, Flint and Green Bottles.

(Patented in United States, Canada, Great Britain and other countries.)

PENNSYLVANIA GLASS PRODUCTS COMPANY

"Glass Goods of the Better Kind"

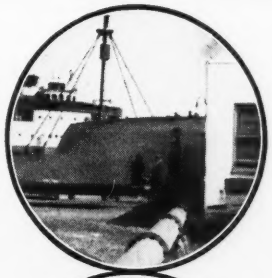
410-12 No. Craig Street — Pittsburgh, Pennsylvania

• DIVISION OF U. S. INDUSTRIAL ALCOHOL CO. •

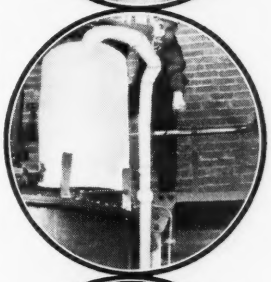
ANHYDROUS ALCOHOL

(Pure and Denatured Ethyl Alcohol)

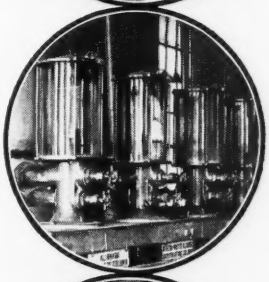
(C_2H_5OH—99.8-100%)



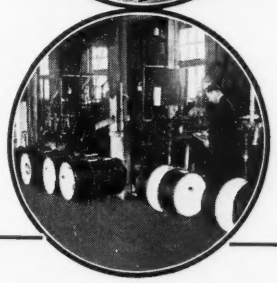
Four company-owned steamers deliver raw material direct to plant.



Special distillation process calling for absolute accuracy in control.



Tail box assembly in the anhydrous alcohol plant.



Filling room for drum shipments of solvent chemicals.

SPECIFICATIONS

Color and Properties:
Clear, water-white liquid, characteristic odor

Constants:* *(for pure alcohol)*
Specific gravity: Not more than 0.7940 at 60/60°F.
Weight per Gallon: 6.62 pounds
Acidity: Free acid as acetic, not over 0.02%
Boiling Point: 78.4°C.
**Constants for Denatured Anhydrous Alcohol will naturally vary with the quantity and character of the denaturants but will approximate the above.*

Solubility:
Miscible with water without turbidity

Dryness:
When 10cc. of the alcohol is shaken in a stoppered tube with 0.5 gm. anhydrous copper sulphate, the latter does not turn blue

Derivation:
Removal of water from ordinary 95% alcohol by a continuous process

Method of Purification:
Distillation

Grades:
Pure and Denatured (all formulae)

Containers:
Tank cars, 50-, 10-and 5-gallon steel or tin-lined drums, ½-litre bottles—36 to the case

Fire Hazards:
Alcohol is inflammable, having a flash point below 80° F. Precautions should be taken to keep flames away from its vapors

ANHYDROUS Alcohol, because of its total freedom from water content, is a valuable adjunct in the preparation of many pharmaceutical formulae where the presence of moisture is undesirable.

A patented and exclusive process of continuous distillation developed in the U. S. I. C. laboratories permits production of a practically pure anhydrous alcohol in any commercial quantity. Because of the affinity standard ethyl alcohol has for water it is not possible to produce anhydrous alcohol by ordinary direct distillation. Standard alcohol is 95% spirits by volume and 5% water. This water content is removed by chemical or physical means to produce anhydrous alcohol. Before development of the continuous distillation process, anhydrous alcohol was prepared by dehydrating standard alcohol with quicklime . . . a wasteful and tedious method.

May we send quotations? U. S. Industrial Chemical Co., Inc., 60 East 42nd Street, New York, N. Y. Branches in all principal cities.

U.S. INDUSTRIAL CHEMICAL CO., INC.

WORLD'S OLDEST AND LARGEST MANUFACTURER OF ALCOHOL CHEMICALS

Ethyl Phthalate. Butyl Phthalate. Nitrocellulose Solutions

Amyl Acetate. Butyl Acetate. Ethyl Acetate Ethyl Chloro Carbonate. Ether

• DIVISION OF U. S. INDUSTRIAL ALCOHOL CO. •

Where THE WORK OF YOUR CLOSURE Ends!

THIS is a picture of empty bottles. Perhaps one of them contained your product. Did the closure you put on it give a good account of itself? Was it thoroughly satisfactory until the bottle was emptied?

Perhaps you think that does not matter as long as the sale was made. But the way your closure performs its duty has much to do with the purchaser's liking for your product and whether she will buy it again.

Here at C. C. & S. "the right closure" means one that measures up at every stage of the life of your particular package. We are familiar with factory requirements—we know what consumers demand. And long experience with many kinds of products has taught us a lot about the behavior of closures under all sorts of conditions. You will find this experience most valuable in obtaining closures that perform their full duty all the way.

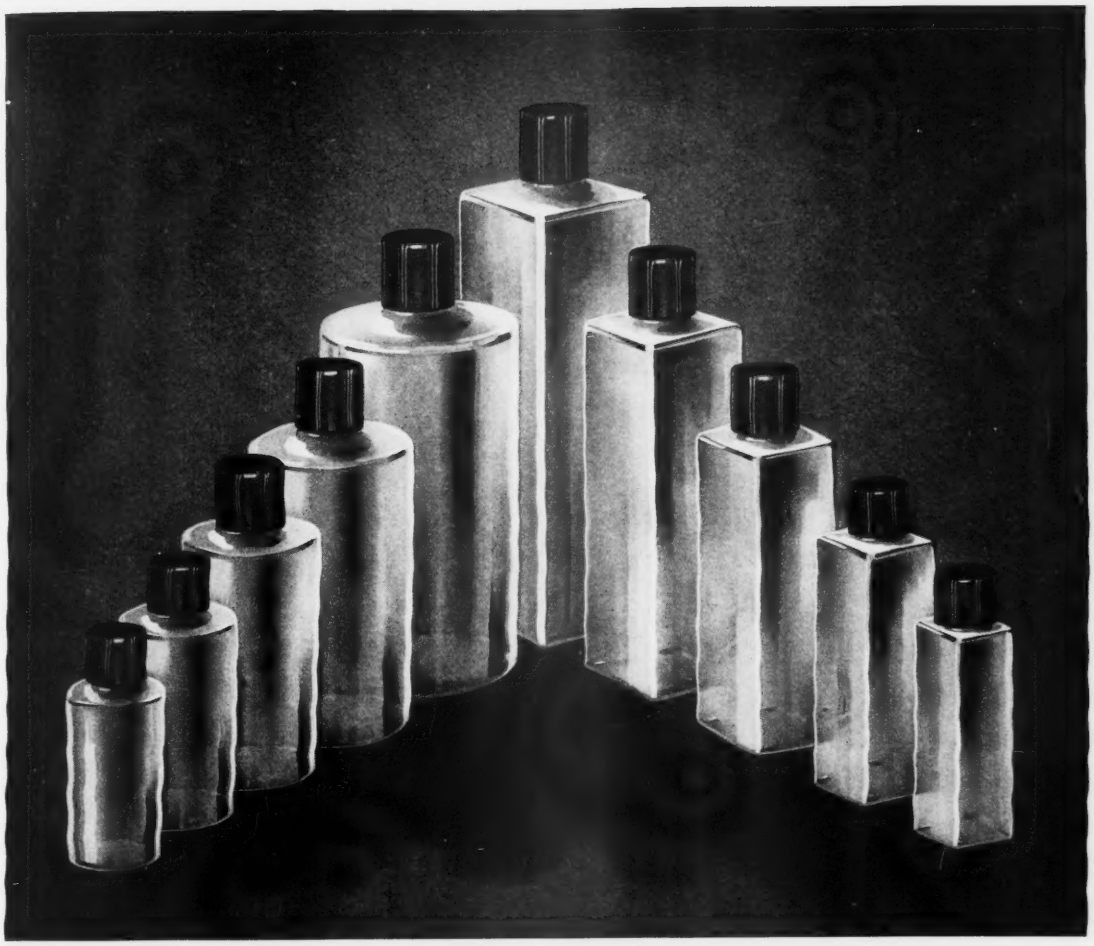
➤ EFFECTIVE SEALING ➤ SUITABILITY FOR PRODUCT ➤ EASY APPLICATION ➤ EASY REMOVAL ➤ BEAUTIFUL DECORATIONS ➤ DEPENDABLE SUPPLY ➤ NATION WIDE SERVICE

TO OBTAIN THE RIGHT CLOSURE FOR YOUR PRODUCT

CROWN CORK & SEAL CO. Baltimore Md.

WORLD'S LARGEST MAKERS OF CLOSURES FOR GLASS CONTAINERS

It's all in the **CAP**



TWO DISTINCTIVE CREATIONS

These brilliant, sparkling bottles give a note of fine distinction to your product. They are stock bottles, suitable for many different kinds of products. By a skillful use of label and cap, you can easily adapt these bottles to make a beautiful, original container.

The round style is No. 337, and the square style is No. 338.

Both styles are particularly well adapted to automatic labeling and packaging. They are available in all sizes from 1 dram to 16 oz. for immediate delivery. The 1, 2 and 4 dram sizes shown in the smaller illustration are suitable for dispensing samples and many other purposes.

Both series are furnished in standard finish for plastic or metal screw caps and may be supplied with or without black plastic caps.

CARR-LOWREY GLASS CO.

Factory and Main Office: Baltimore, Md.

New York Office: 500 Fifth Avenue, Room 1427
Telephone: CHickering 4-0592

Chicago Office: 1502 Merchandise Mart
Telephone: WHItehall 4326

ARE YOUR PACKAGES "*Nudists*"?

DRESS UP THOSE BOTTLE TOPS WITH COLORFUL TIGHT-SEALING DU PONT CEL-O-SEAL CAPS

IT matters not what closures you use, your packages will look more fully dressed with Cel-O-Seal Caps or Bands. Placed over corks, metal caps, molded caps, or other closures they give the package a finished appearance . . . a colorful, attractive silhouette.

All this—and more! With Cel-O-Seal Caps, inquisitive or furtive fingers can't tamper with your package without detection. Closures won't come loose and let evaporation rob your product of its strength.

Supplied moist, DuPont Cel-O-Seal Caps and Bands are easily slipped over the regular closure. No machinery is needed to apply them. In drying, they shrink tightly over the bottle . . . can't be removed without first breaking the cap or band. They're available in a wide range of transparent and opaque colors as well as in gold and silver metallic finishes.

There's but one way to really see their effect. Send us a few packages and let us fit them with Cel-O-Seal Caps or Bands. We'll return them, with prices, and let you be the judge. Armstrong Cork & Insulation Co., Closure Division, 913 Arch Street, Lancaster, Pennsylvania.

Armstrong's (A) *Product*

Armstrong's Closures

Consider, also, these other closures in the Complete Armstrong Line

This modern, whiter pigment replaces harsh irritants

USES FOR
PURE TITANIUM OXIDE
Vanishing Creams•Powder Creams
Cold Creams • Bleaching Masks
Bleaching Ointments • Bleaching
Lotions • Nail Polishes • Tooth
Pastes • Face Powders • Talcums
Body Powders • Dry Rouges • Baby
Powders • Foot Powders • Liquid
Powders • Cake Powders • Phar-
maceutical Ointments

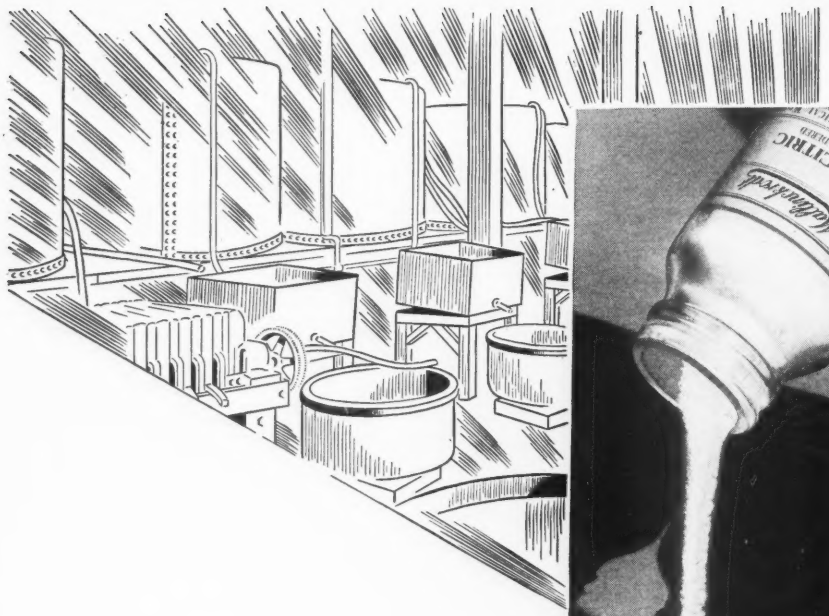
● Chemical inertness and stability combined with unusual particle fineness make Pure Titanium Oxide a valuable pigment in cosmetic manufacture. This pigment never produces irritating alkaline reactions or other undesirable effects in cosmetics or pharmaceuticals ● This pure white opaque pigment is finer in particle size than other commonly used white pigments. It has excellent adhering qualities and remarkable tinting and covering power. When used in vanishing creams, talcum powders, face powders, lotions, tooth pastes and numerous other products, Pure Titanium Oxide improves stability, texture and color ● Every manufacturer of cosmetics and pharmaceuticals should carefully investigate the advantages of Pure Titanium Oxide. Another of our products, Titanox-B (barium base), also has wide application in manufacturing scores of products. All Titanox products are produced under strict laboratory supervision and are widely known for their highly uniform purity ● Get in touch with us now and let us cooperate in adapting Titanox pigments to your formulas. Write today.

TITANIUM PIGMENT COMPANY, INC.

Manufacturers of . . . TITANOX-B (Barium Base)
TITANOX-C (Calcium Base) . PURE TITANIUM OXIDE

111 Broadway, New York, N. Y.; Carondelet Station, St. Louis, Mo.; Pacific Coast Distributor: National Lead Company of California, 2240 24th Street, San Francisco, Cal.; Canadian Distributor: Wilson, Paterson, Gifford, Ltd., 101 Murray Street, Montreal—132 St. Helen's Avenue, Toronto, Ont.

TITANOX



CITRATES

CITRATES for many requirements are manufactured in the complete Mallinckrodt plant. If a real need occurs, Mallinckrodt can develop a special citric acid product to fill it.

Thus, for manufacturers of effervescent salts and tablets was developed Mallinckrodt **Citric Acid Dried,** containing no more than 0.5% moisture as against the 8.5% permissible in the U.S.P. product.

Again, for the tablet makers there is the Mallinckrodt **Iron Citrate U.S.P. VIII,** which will not become deliquescent.

Note the full variety of citrates listed. . . . If you have a special manufacturing problem in citrates, put it before Mallinckrodt chemists—they will be glad to work with you.

ALSO

Acid Citric U.S.P. Crystals, Gran. & Powd.

Acid Citric Dried Powd.

Iron & Ammonium Citrate:
- U.S.P. Brown Pearls (Ferric Amm. Citr.)
- U.S.P. Brown Scales (Ferric Amm. Citr.)
- U.S.P. Brown Powder (Ferric Amm. Citr.)
- Green Pearls
- Green Scales

Potassium Citrate U.S.P. Gran. & Powd.

Sodium Citrate:
- U.S.P. VIII Gran.
- U.S.P. X Gran.
- U.S.P. X Powd.
- U.S.P. X Impalpable Powd.

Iron Citrate U.S.P. VIII, Pearls & Powd.

Ammonium Citrate Gran.

Bismuth & Amm. Citrate U.S.P. IX

Magnesium Citrate Sol. Powd.

Manganese Citrate Sol. Pearls N. F.

Quinine Citrate

Strychnine Citrate and other

"Iron and" Citrates

Mallinckrodt
CHEMICAL WORKS
Makers of Fine Medicinal Chemicals

ST. LOUIS · CHICAGO · PHILADELPHIA · NEW YORK · TORONTO · MONTREAL

Editorials

Confidence

Since we were very young we have been hearing the word "moratorium, "but we never expected to see it in actual practice. We have seen it and we enjoyed certain phases of it, but on the whole we are distinctly glad that it is over and we do not care if we ever see one again —in fact we might say that we hope we don't.

But the one thing which we enjoyed more than anything else regarding the recent bank holiday is the fact that it represented action. It represented the first real step toward a definite recovery in business. Furthermore, the statement of the President that those banks which do reopen are certain to be sound, is the most reassuring thing that the people of this country have had told them since before the depression began.

Confidence is the one thing which the country needed. We have all had a great experience of stiffening of the backbone since the office of President changed hands. We expect that subsequent events will further add to the confidence of the people and business recovery will follow surely as this confidence makes itself felt.

• • •

Stiffening

It is well within the realm of probability that the downward trend of prices has been checked or is in the process of being checked. While the condition has not actually changed so far as income and employment are concerned, the confidence in financial institutions which has been established is certain to cause a general loosening up on the part of people with money and cause more easier trade conditions. Also the definite moves which are now being made both nationally and locally in the various states and cities toward drastic lowering of taxes, should aid in the general recovery to a still greater degree.

Stiffening of the price structure is bound to follow these steps. Raw materials are quite likely to respond quickly. As a matter of fact, the prices of imported products have already advanced due to the embargo on gold and the bank holiday. Domestic raw materials will respond to this general advancing tendency of prices and manufacturers of drugs and cosmetics will find shortly that their raw material prices will make dangerous further reductions in the prices of their finished products.

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Our Indexes

With this issue we inaugurate a series of weighted indexes of raw material prices. These fall into four groups: Medicinal chemicals cosmetic raw materials, botanical drugs, and essential oils. A composite index of fifty raw materials including all these groups is also given.

We have selected 1925 as the base, giving the average of prices for that year as 100. The indexes have been most carefully weighted and most carefully calculated, and as might be expected, the present month shows a slight rise in the indexes for botanical drugs and essential oils, reflecting very definitely the effect which out embargo on gold and bank holiday had upon prices for imported goods.

We expect that these indexes and charts will be of increasing value as time moves on, since followers of the charts will be able to follow their predictions, and will be able to base their decisions upon the trends which these charts show. The fact that indexes are properly derived and actually indicate conditions in the industry should make them extremely valuable.

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Vitamins

We visited a cod liver oil plant recently and were quite surprised and very much intrigued to see them using the x-ray to photograph the hind leg of the experimental rats rather than killing the rats and splitting the bones for vitamin assay. Not that we have any compunctions about killing rats, but the other method seems so much more progressive and modern.

But speaking of vitamins we note a very definite trend on the part of many of the cod liver oil product houses to invade the field of halibut liver oil, these houses admitting advantages in halibut liver oil over cod liver oil. To date the only halibut liver oil available has come from this country and has been under definite control by a few drug manufacturing houses. But now we have received word that at least two Norwegian cod liver producers are able to ship either the halibut livers or the oil, and it should not be long before bulk halibut liver oil is an item of commerce.

What lies ahead in vitamins is somewhat clouded. However, one seller of vitamin products told us recently that the thing to watch was the carotin, the pro-vitamin A. A prolific source of this at a reasonable price, he said, would just about raise havoc with the present set-up. Another thing much to be desired would be a rapid method of vitamin A other than the rat or the colorimetric. Some cod liver oil producers, we are told, are able to meet the colorimetric test without having the vitamin A present.

Botanicals

The change of an established crude drug importers' agent to the status into the broader field of merchandising botanicals comes after a period which has witnessed the dwindling of the ranks of the old line botanical dealers whose names have been associated with this industry for a great many years.

There has been a tendency of late years to believe that the medicinal chemical would step by step replace botanical drugs, and that the day in which botanicals would hold a major place in materia medica, has passed forever. Certainly the imports and consumption of botanicals would indicate this, except for such outstanding exceptions as psyllium, ephedra vulgaris, and a few others.

We have never shared this viewpoint. We have thought that chemical research, instead of eliminating the botanical which has proved its use in the common experience of people, would, as in the case of ma huang, isolate the active principle and scientifically demonstrate its therapeutic merit.

With many botanicals—ginseng for instance—the reason for their use is still a mystery. Yet we can not, even in this age of scepticism, dismiss more than a thousand years without the most serious investigation.

It is for this reason that we like the crude drug trade and like it to be alive and active. We think there is more romance to the rise of a botanical to a place of high favor, than there is to the rise of a thousand synthetic chemical medicinals to a similar place of importance.

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The Dinner

Without doubt, the Drug & Trade Dinner of New York has become the most important meeting of men associated with drugs, cosmetics, and chemicals, in the country. Actually there were over eight hundred and fifty men present at the Waldorf Astoria Hotel on March 16. These men went there to meet one another and to become more generally acquainted with the industry to which they belong. They met other people under friendly circumstances, and nothing but a feeling of good fellowship prevailed.

The Drug and Chemical Section of the New York Board of Trade is performing a great service to the industry in sponsoring this annual event. Other trade associations are likewise to be congratulated for the way in which they support the dinner and make it a real cooperative event. This year the Chairman of the Section, Francis J. McDonough, and the Secretary of the Section, Ray Schlotterer, are especially to be congratulated for boosting the attendance at the dinner to the greatest ever—and in the third year of the Great Depression.

It is such events as this dinner that prove that this industry is a great one. It is full of the real cooperative spirit that prevails throughout the drug and cosmetic industry, and it is proof that the industry treats depressions in the proper manner.

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New and Non-Official

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Don't Say We Didn't Warn You

A report from the Department of Commerce assures us that crocodile oil and ostrich oil are due to follow in the path opened by turtle oil. Our sympathy is hereby tendered to the manufacturers of nourishing creams who can do nothing but bow their heads before the storm. These long-lived animals and their oils will probably continue to be sprung upon him ad infinitum.

Not until somebody attempts to press the oil out of a dinasour egg will the end be in sight.

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Speaking of Free Deals

Affiliated Products Co. recently offered free admissions to the Roxy Theater, New York, to every one presenting a carton of a full size package of "Jo-cur" wave set at the box office.

The offer was good for a week and certainly came in handy during the late bank holiday.

Consolation

The bright lad who writes the copy for the French Line has found out that sunshine and Vitamin D are synonymous, or at least enough so that they can be used that way in copywriting. So, carried away by the pleasant jingle, he gets down to the business of selling us on a 19-day West Indies cruise with the bold headline.

"You and the Sea and Vitamin D"

Now we have no quarrel with the sentiment but we do question the judgment. We can think of any number of reasons for taking the very fascinating trip which the advertisement goes on to describe. But if you are like us, when you're in the market for Vitamin D, you crawl into your little dark hovel with the trusty bottle of cod liver oil or one of the concentrates and save your money so that you can go on a West Indies cruise for a lot of other reasons.

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An Unfriendly Act

The fellow who produced a garlic without an odor certainly started something which, if carried to logical conclusions, will prove the ruination of the mouth wash and breath deodorant business.

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We See by the Advertisements

Pompeian has discovered the "half-hour nose."

Rit Products Corp. enters the hair dye market with a 15-cent package.

"Prep" discovers that "the only chance a man has to take care of his skin (without being dubbed a 'violet') is when he shaves" and that "it lets men keep their schoolboy complexions."

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Ten Years Ago

From our pages, March, 1923

American toilet goods makers jeopardized. Victor Vivaudou sees French competition threatening American perfumer. American producer of toilet goods received "Raw Deal" in tariff.

The United Drug Co. reports gross sales of $61,186,906 during 1922 as compared with $60,190,167 for 1921.

Permission to manufacture medical products in Russia is only granted after the local economic council has considered the proposition thoroughly and has had time to impose numerous special restrictions on the production and sale of material.

Secretary of State Hughes says he will immediately make diplomatic approaches under the Porter Narcotic law to foreign nations, with the purpose of setting up international machinery for the control of traffic in narcotics.

Drugs and Cosmetics in the Depression

By C. C. Concannon*

The degree to which the drug and cosmetic manufacturers have maintained their market against the general trend of the past three years is too little appreciated. Mr. Concannon gives some figures which bring to mind the unique stability of this industry.

MEDICINE and toiletry industries of the United States apparently are buffeting the depression better than many others, according to a review made by the Chemical Division of the Commerce Department. Production through 1931 was even better than the average from 1920-1929 and its decline of 17 per cent. from the peak of 1929 compared with an average decline for all industry of about 41 per cent.

C. C. Concannon, Chief of the Division, pointed out that these figures are based on value and not quantity. If comparisons were made of the volume of merchandise, the percentage of decline from the 1929 peak would probably be smaller, if any decrease were shown at all. Figures for such a comparison are not available.

Even over a period of years, these trades have shown much greater strength than many another. Proprietary medicine production in 1931, for instance, was practically dollar for dollar equal to the average production during the 1920's—$172,648,000 against $172,798,000. Production of perfumes, cosmetics, and toilet preparations (not including soaps) in 1931 was 10 per cent. ahead of the average for the census years 1921 to 1929—$162,681,000 against $147,510,000.

It is not hard to imagine why medicines keep on selling in a depression. Whatever the economic weather, people fall ill and need relief; the worse the storm, the more are they forced to get cheapest relief possible. This means in hundreds of thousands of cases economizing on medical advice and taking to proprietary or household remedies. Add to this economic factor the constantly increasing attention given to preventive care of the body against disease, which has led to an increase in the consumption of health-building as against health-restoring preparations. Vitamin preparations lead in this group.

The value of "ethical" vitamin preparations went way up in 1931, more than a third greater than their 1929 value. Proprietary vitamin products are not separately listed in the Census, so their progress cannot be stated, although the likelihood is they also increased.

Advertising has been better maintained than in most industries; the total spent in 1932 on medicines and toiletries in magazines was $26,397,000 and on radio was $8,526,000. The decrease in the former from 1931 was made up in part by more radio advertising with the result that the combined magazine and radio advertising in 1932 was within 10 per cent. of the 1931 expenditure, and that year's total was 2.4 per cent. ahead of 1930.

In the drug field the effect of much of this advertising is not simply to sell a brand but to emphasize the importance of *keeping fit*, which is a much more serious matter to people harassed with holding on to jobs and businesses and with search for work in a period of depression than when things are on the "up-and-up."

Research in the medicine field has developed many new remedies which have served to maintain sales by individual houses. A survey made in 1932 revealed that five out of eight of the leading drug manufacturing concerns spent more money for research in 1931 than in 1929. The total bill for the eight in 1931 was over half a million. Of the eight, three reported larger sales in 1931 than in 1929; the other five did not report. All eight are now actively marketing products developed in their own laboratories within the past two years.

While this industry has not escaped its toll of bankruptcies, various other factors have served in 1932 to save it from the severe deflation suffered by many other businesses. Perhaps chief of these was a definite shift in manufacturers' policies away from quantity toward quality merchandising.

Secret rebates or discounts which had been great encouragement to severe price cutting seemed to be on the wane the latter part of last year. Selling goods on consignment was increasingly adopted further to curb price cuts.

Sales of medicines are affected basically, of course, by public health conditions. Unseasonal warm weather

*Chief, Chemical Division, Department of Commerce.

conditions in the winter of 1931-1932 had curtailed medicinal sales but the severe weather toward the close of 1932, with attendant colds and influenza, reacted in boosting the drug business. Sales of staple drug and pharmaceutical items throughout last year, according to "Dun's Review" dropped in value only 17 per cent. from 1931, while turnover declined about 10 per cent.

The drug industry has done more reviewing and revamping of its merchandising methods to meet changing conditions probably than most other industries. Its researches in this field, which have been in the direction of selective rather than volume selling and will undoubtedly contribute increasingly to maintaining profitable operations, have been led by the Druggists Research Bureau, maintained by the National Wholesaler Druggists Association, and the National Drug Store Survey, made by the Bureau of Foreign and Domestic Commerce in collaboration with 33 trade associations and papers in the drug industry. This industry is served by alert and progressive associations and papers which have rendered the trade invaluable service in this connection.

When it comes to cosmetics, the surprise is much greater that in a year of depression such as 1931 they should continue to be bought in such quantity—actually in greater amount than the average for the years of prosperity and easy spending. These are what many regard as the "unessentials" of life.

Many of the factors favoring a maintenance of medicinal sales have been acting with equal effectiveness in favor of cosmetic sales. Persistent advertising, technological research, and research in economical marketing, falling raw material prices, adjustable price policies—these and other forces have helped to hold up this trade. But even more important than all of them put together is a psychological factor—the conviction that the race is to those who feel fit, and a large part of feeling fit is looking it. So far as cosmetics act as an aid to that end of really making people feel fitter, they have ceased to be a "non-essential" and have become a necessity.

Advertisers have done much to stress this feature and the appeal has contributed greatly in the maintenance of sales. Dentifrices, the largest toiletry item outside of soaps, have increased in volume almost steadily. Even in 1931 sales went up, 10 per cent. above 1929. Face creams and lotions, the second leading group, failed to maintain their 1929 level but sold in approximately the same amount as in 1925. More than a third more toilet powders were sold in 1931 than in the latter year. Toilet soaps, down 12 per cent. in 1931 from 1929, were still four per cent. ahead of 1925. Three per cent. more shaving soaps were bought in the depression year than in 1929. It is those items which rely for their appeal mainly on adornment that have felt the greatest falling off from the 1929 demand, among them perfumes, off 46 per cent. and toilet waters 40 per cent.

Dicalcium Phosphate Therapy

INCREASING interest is surrounding the use of di-calcium phosphate as a prophylactic and therapeutic agent to produce soundness of the teeth and of the bones. For a long time the use of various vitamins was thought sufficient to prevent and to correct such conditions. Vitamin C was believed to be the main factor in preventing or curing dental caries, and vitamin D was believed to be the main factor in preventing or curing rickets. Calcium was believed to be available in sufficient quantity in the ordinary diet, and not a great deal of thought was given to any supplementary feeding of either calcium or phosphorous of which the bones and teeth are composed.

But it has long been recognized that the vitamins were merely catalytic agents which caused the calcium to become fixed in the proper places in the body instead of permitting it to pass through. Therefore it was thought that the trouble was that people all had sufficient calcium enter their systems but failed to retain it.

Following wide spread use of vitamins with the above idea in mind, it was found that the undesirable conditions continued

to develop in many people who were certainly sufficiently supplied with vitamins, thus indicating that the vitamins alone would not prevent or correct the conditions.

Introduction of calcium directly into the system has recently been made easy through the discovery of calcium gluconate, but still more recently there has been a definite trend toward the use of di-calcium phosphate to insure the proper amount of phosphorous entering the system in addition to the calcium and the vitamins.

So while one person might need the vitamins—having a sufficient supply of calcium and phosphorous in the diet—another person might not need the vitamins, but might need the calcium or phosphorous or both. The capsule photographed here is based on the idea of supplying all three factors at once. This capsule contains cod liver oil, and also a tablet of di-calcium phosphate which has been coated so as to be impervious to the oil. Therefore the product contains di-calcium phosphate, and vitamins A and D.

A recent report by Dr. R. Gordon Agnew, member of the faculty of West China Union University, of Chentu, in Szechwan Province, China, delivered in New York before a hundred leading scientists invited by the board of governors of the University, stated that decay in human teeth results from an insufficiency of phosphorous and vitamin D. Dr. Agnew has performed experiments on thousands of rats, and has been able to produce and to prevent tooth decay in almost 100 per cent. of the cases by the addition or subtraction of this one element and this one vitamin.

Dr. E. V. McCollum, of Johns Hopkins University, announced that Dr. Agnew had for the first time, consciously and under scientific control, have succeeded in producing and preventing dental caries, practically at will, and to a degree approaching 100 per cent.

Turtle Oil Facts

By F. W. Brown*

Different turtles give different oils. In this article Dr. Brown gives first hand information regarding the various turtle oils, and gives a set of constants by which to determine their purity.

THE rapid rise of turtle oil to a place of importance as a raw material for the manufacture of cosmetics has caused a condition in which a rather sizable quantity of the product is now being bought and sold in the industry without any definite standards for the purity of the product having been published. As a matter of fact, many consumers, as well as some who trade in the oil are as yet without authentic knowledge as to the proper qualifications which genuine turtle oil should meet.

In order to arrive at these specifications so that we might be able to identify turtle oil of prime quality, we sought knowledge regarding the sources of supply. Then we made certain that we received authentic samples of turtle oil from these various sources. The samples from various producers in different locations were examined. The possibilities of production were investigated. The varities of turtles yielding commercial oils were identified. The chemical and physical factors were determined to establish a set for factors for a pure product.

Common commercial turtle oil is obtained chiefly from the loggerhead turtle, which is caught and rendered in the tropics and semi-tropical regions. This oil is dark in color, solidifying between 15 and 20° C., and having a strong fishy odor.

The turtle oil from African sources presents satisfactory chemical factors, is a solid at 20° C., and has a disagreeable fishy and rancid odor.

The oil from the green turtle bids fair to be the most desirable variety of turtle oil for cosmetic purposes. It is of a strong yellow color, is a solid between 15 and 20° C., it presents an individual but persistant odor, not particularly fishy when fresh, but developing a fishy odor on standing, particularly when exposed to the air.

The variation in the odor of the oils has been ascribed to the feeding habits of the various types of turtles—the green turtle is a strict vegetarian, while the loggerhead turtle is a scavenger.

Supplies of the oil from the green turtle, which oil is the least odorous, are the scarcest. No estimate as to the quantity available, or as to the possibility of increasing that quantity, is available. At present, the green turtle oil is a by-product from the canning of green turtle substance and the making of green turtle soup. A green turtle weighing about four hundred pounds weighs from fifteen to twenty-five pounds of oil. The turtle sells from 25 to 30 cents per pound live weight. In so far as the cost is considered, recourse to the green turtle for the sole production of the oil, is beyond the realm of possibility. The quantity of this oil available depends upon the ideas of the cooks as to what degree the soup can be depleted of its fat without real or apparent damage.

It is interesting to note that turtles rendered away from their natural habitat yield a much smaller quantity of oil than turtles killed as soon as they are pulled out of the water. This is due to the fact that turtles which are shipped to various parts of the country must live largely off their fat between the time they are caught and the time they are killed.

The oil from the loggerhead turtle can easily be secured in quantity sufficient for commercial purposes. Something like one hundred and ten thousand gallons are used annually on the northeast coast of South America, while several thousand gallons are exported annually from the Seychelles to London.

Factors obtained in three different laboratories, working independently from such samples as came into their possession from various sources, all indicate that the range of factors as established by us, are in conformity with the findings of each analyst. Our laboratories have tentatively established this set of factors for such oils as they consider authentic:

S. G—at 25° C.	.914 to .919
Sol. in Ether, Chloroform, Petroleum Benzine, Carbon Tetrachloride, Acetone	
Refractive Index at 20°	1.4658 to 1.4715
Saponification No.	197-208
Iodine No.	89-98

Free Acid—about .1 cc—½ normal—Alc. KOH—abt 1 gm of oil

Color Test: When a drop of concentrated nitric acid was allowed to run down the side of a small evaporating dish to make contact with a small quantity of the oil, it showed a brownish coloration,—tan to brown; no violet or lavender color developed.

Odor: similar to that of beef dripping to mildly fishy.

Color: yellow to orange.

Appearance: solid or semi-solid at 15-20°C.—clear, bright liquid at 30.

(*Continued on page 230*)

*Chief Chemist, Magnus, Mabee & Reynard, Inc., New York.

Dr. Alfred S. Burdick

Dr. Alfred S. Burdick, president of Abbott Laboratories, who died February 11, of pneumonia, was within four days of being sixty-six years old. He had been president of Abbott since 1921, and during his tenure of office, Abbott made its greatest strides forward. Dr. Burdick was the successor to Dr. Abbott under whom he had served for many years, and he carried forward that same fine spirit.

Born on February 15, 1867, to the Rev. Stephen and Susan Maxon Burdick, at De Ruyter, N. Y., Dr. Burdick obtained a degree of A. B. from Alfred University when only 19 years old, teaching school for a year or two afterward. He then entered the Chicago Medical College (now part of Northwestern University), taking his medical degree from Rush Medical College in 1891.

Dr. Burdick entered upon general practice of medicine immediately after graduation, in Dunlap, Ill.; then, due to his wife's illness, transferred his activities to Florida for a few years; and returned to Illinois, where he practiced in Hinsdale and Chicago. From 1899 to 1904 he was associate professor of the practice of medicine in the Illinois Medical College.

On his return to Chicago, Dr. Burdick became interested in medical writing, and did so well at it that he was editor of the "Medical Standard" from 1899 to 1904.

It was through this latter activity that he attracted the attention of Dr. W. C. Abbott, who was looking for someone to assist him in spreading a knowledge of exact, active-principle therapeutics among the physicians of the United States. Dr. Burdick in 1904, gave up medical practice and devoted his entire time to editorial and literary work, as editor of this journal, which was then called "The Alkaloidal Clinic" and was, frankly a periodical for propaganda, but gradually became, under Dr. Burdick's guidance and under its new name, "The American Journal of Clinical Medicine" (1906), more and more an independent journal for the general practitioner.

But the doctor was also deeply interested in providing physicians with dependable remedies, and made himself familiar with the work which Dr. Abbott was doing, gradually giving up his editorial labors, which were assumed by Dr. H. J. Achard, in 1913, and devoted practically his entire time to manufacturing pharmaceuticals. With the passing of Dr. Abbott, Dr. Burdick became president of the Abbott Laboratories, in 1921.

In this field, the doctor achieved high distinction. He was president of the American Drug Manufacturers' Association 1923-25; a member of the board of governors of the Synthetic Organic Chemical Manufacturers' Association, and vice-president in 1923; member of the Chemical Advisory Committee of the U. S. Department of Commerce from 1925 until his passing.

Dr. Burdick was a lieutenant colonel in the Medical Reserve corps, U. S. Army; a fellow of the A. M. A.; a member of the American Medical Editors' and Authors' Association, and of various other organizations; and the author of three medical books—"The Standard Medical Manual," 1904; "The Remedy and Common Emergencies," 1915; and of various articles in the periodical literature.

An omnivorous reader, a studious artist (he was a member of the Business Men's Art Club) and a wonderful listener, Dr. Burdick accumulated an immense fund of knowledge of men and things, which with his keen vision, sound sense, unfailing kindliness, unfaltering probity and personal modesty, combined to make him one of the leaders in his field, to whom all listened with respectful attention.

He continued as editor of the Abbott publications until his appointment as vice-president and assistant general manager of the Abbott Laboratories in 1916.

Dr. Burdick distinguished himself as one of the outstanding men in the pharmaceutical industry of the United States. Due to his high ideals, his foresight and energy the Abbott Laboratories became an important factor in medical research and in the manufacture of synthetic medicinal chemicals. He had devoted much of his time to the betterment of the chemical manufacturing industry through his various activities in association work.

From the beginning of his association with the Abbott Laboratories, he realized the direct importance of research and was instrumental in devoting much of his company's resources to research in chemistry, pharmacy and medicine.

Dr. Burdick was the type of man who readily made friends, who was distinctly fair toward everyone in his professional or other dealings.

Embassy, Ltd., is the name of the line now being sold exclusively through Woolworth at 20 cents per item. Turquoise blue is the dominant color, offset by silver and white. Jars are opal, powder box covers are aluminum.

Helena Rubinstein (below) is offering her "Youthifying" Tissue Cream in combination with her Pasteurized Face Cream. The combination package is shown in background, and the jars in the foreground. The new product is packaged in typical Rubinstein fashion.

BIO-CREAM
BACTERIAL ANTIGEN MADE FROM
PREPARED UNDER U. S. GOV'T LICENSE NO. 30
(NO U. S. STANDARD OF POTENCY)
G. H. SHERMAN, M. D. INC. DETROIT

Bio-Cream is the name of a recent product of G. H. Sherman, M. D., Inc., which is described as a bacterial antigen from streptococcus, pneumococcus, staphylcoccus. It is packaged in opal, with plastic cap, and comes attractively wrapped in glassine.

Body Deodorants

By Charles Weekes*

Many ingredients have use as body deodorants. Some are more effective than others but might have undesirable action on the skin. Mr. Weekes gives a most complete discussion of the entire subject.

THE modern desire to rid oneself of body odor comes to us from long ago. It can be traced almost from the beginning of history. Mahomet once described Islam's Paradise as a luscious scented region where women are made of musk. The custom of exquisite bathing is a plagiarism from Cleopatra's Goddess-like dips in jade and alabaster baths overflowing with fresh dew and snow from the distant mountains, and her dusting powders were composed of a thousand rare pearls. History tells of Empress Josephine's wholesome morning lave of boiling milk poured over fresh violets, and of Napoleon's habit of bathing with Eau de Cologne before each battle. So today, when dainty maidens bathe with bath salts, use a deodorant product, a dusting powder, and give themselves a dash of their characteristic perfume, they are merely carrying out a time-honored tradition that associated sweet bodily odor with health and beauty.

The cause of body odor is perspiration. Under normal conditions about a quart of perspiration is lost through the skin in twenty-four hours. Under special conditions, such as in athletic contests, in heavy work, such as mining, etc., this may be increased to more than three quarts an hour.

Perspiration serves the body in two important ways. It serves first as a thermostat in keeping the body temperature down to normal. If a person were unable to sweat, in a hot atmosphere, he would burn up with fever. The perspiration as it evaporates on the body in the hot air cools us and keeps us from feeling uncomfortable even on a hot summer day. We are uncomfortable on very humid days because, in spite of being bathed in perspiration, this perspiration is unable to evaporate in an air already saturated with moisture. The second important function of perspiration is to carry off waste matter. On hot days the body burns up a greater amount of energy. As a result more carbon dioxide is formed. The pores literally help the body to "breathe" in getting rid of this carbon dioxide. In one experiment, a person was kept three hours in a tropical atmosphere. During this period he lost four quarts of perspiration and the carbon dioxide content of the blood was reduced six and one-half per cent. The carbon dioxide is changed in the blood plasma to lactic acid which is found in large quantities in perspiration. It is a known fact that athletes complain of "stinging sweat." This is due to the irritant action of the acid in sweat. It also accounts for the fading of colored garments, and the weakening of fabrics exposed to excess perspiration.

Perspiration in itself, when a person is healthy, does not have a foul odor. It is the cumulative effect of drying sweat which produces odor. The odor of sweat is a great aid to the physician in diagnosing certain diseases. Diabetics and persons with Brights Disease exude perspiration with a characteristic smell. In addition, the perspiration of different people will be different in odor and the perspiration from different parts of the body of the same person will be characteristically different. This odor need not be objectionable although, excluding the sick, there are certain unfortunate individuals whose chemical composition gives their perspiration a permanent odor which does not disappear no matter how often they bathe.

Body odor is due to chemical change taking place in accumulated fatty acids. When perspiration accumulates it has mixed with it other organic material in the form of disengaged horny epidermis. These loose bits of outer skin, saturated with oil, have been loosened by the chemical action of perspiration and by the friction of clothing. Concentrated in one spot as in the arm-pit or the crotch, and especially in the presence of bacteria, they rapidly develop the peculiar "sweat odor" or "body odor." After bathing there is no odor; but since new perspiration is immediately exuded, the problem of odor again begins to present itself after four or five hours. Bacteria, which is ever-present in the air and on the skin, acts as a catalyst in accelerating the chemical change from which odor develops. Keeping the body clean and exposed to sunlight makes for partial sterilization and helps to prevent smell. Perspiration from the forehead, where bacteria has little chance to grow, because of its greater cleanliness and exposure to ultra-violet rays in light, is generally without objectionable odor.

Body deodorants are liquid or solid substances applied locally to prevent perspiration. Since they are in contact with the skin, they must be non-toxic and non-irritant. Naturally, they must have no unpleasant

*Banks Laboratories, New York.

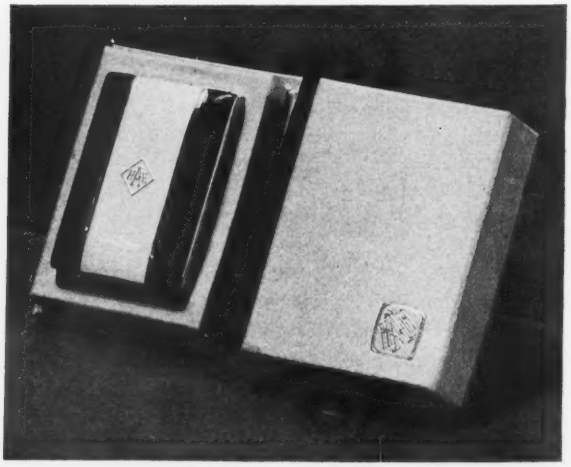
ALKALINE
ELIXIR
FOR THE TREATMENT OF ACID CONDITIONS OF THE SYSTEM
MagNejol
AN EMULSION OF EXTRA HEAVY MINERAL OIL WITH PURE NURSE BRAND MILK OF MAGNESIA
SAN-TOX
STOMACH
BITTERS
A TONIC FOR THE STOMACH AND ALIMENTARY CANAL

De Pree Company recently introduced a line of packages which present most modern and attractive label designs which are all quite different, but which still have a certain similarity. Label colors are also entirely dissimilar, the Elixir being brown and black; MagNejol, gray, black and yellow; and the Bitters, gray, black and red.

Detoxal, the popular Merrell tooth paste, has been repackaged in a tube and carton of strikingly modern design as shown above.

The "DuoOval" bottle (below) is being offered to manufacturers by Owens-Illinois Glass Company. The two faces of the bottle are differently designed, allowing different label treatment for each face, and permitting use of the same bottle for two items of different appearance.

Harriet Hubbard Ayer is presenting a new compact in black, ivory with chrome trim and monogram as a companion item to the automatic lipstick recently introduced.



odor of their own, nor must they develop one in the presence of sweat. An ideal body deodorant must do three things; First, where applied it should stop perspiration; Second, it should kill or neutralize odor; Third, it should have antiseptic action; Fourth, not injurious to skin or no discomfort—safe. None of the deodorants of today seem to fulfill all three of these functions. Very few are good antiseptics. Most of them fall into one of two classes, either they stop perspiration, or they act in some way to mask the odor.

To stop perspiration, probably the best method is to allow a solution to exert its astringent action as it dries. One of the best classes of compounds for this purpose is the salts of aluminum. A solution of alum or of aluminum chloride draws the pores together so that little or no perspiration is allowed to pass. A very common product of this character is sold today. It is a solution of about 20% aluminum chloride. People with tender skins notice a slight burning sensation under the arms where the skin is apt to be chafed. This is due to the chloride ion of the salt in solution. The search for the ideal substance for exerting astringent action in a deodorant is difficult. The reason why all astringents cannot be used is because often they are irritant, or non-antiseptic, or non-deodorizing, or soften the skin too much, or have a peculiar odor of their own. (See Table I).

Deodorants which are merely astringents, however, also serve their purpose. It is not harmful to stop perspiration in a space of a few square inches on the body because of the millions of other pores which can also excrete sweat. It is claimed by a manufacturer that an astringent deodorant has effects lasting a week. This is inconceivable, because even if a person does not bathe, the surface subjected to astringent action is quite likely to exude perspiration due to cracking of the dried surface, movement of the body, friction of clothes, etc., so that in time the sweat oozes through, bathes the surface and opens the pores.

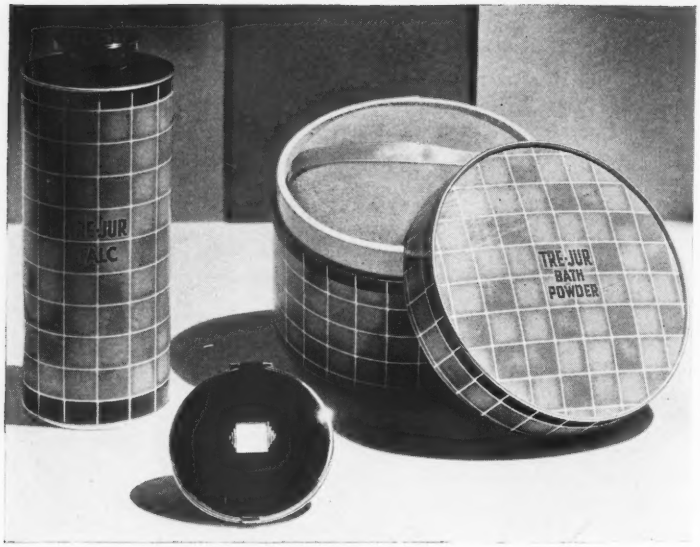
Killing or neutralizing the odor is done by compounds which are placed in contact with the pores. The earliest forms of such compounds were deodorant-powders which were dusted under the armpits. This was thought to kill the odor. The powder very likely consisted of starch and zinc oxide mixed with a little salicylic acid or pure tannin. The fine particles of powder absorbed the perspiration and, it was believed, also the odor. The antiseptic properties of the powder, however, probably prevented the odor from developing.

It is very difficult to kill the odor in its entirety. To do so, one must have a fairly unsaturated compound which combines with all the odoriferous material as it is formed. It is thought that chloride ion gas acts in this way, using up the nitrogenous constituents of sweat-odor and forming a compound that has little odor, or at least one that is not unpleasant in odor. There are many compounds that will combine with the odor, but the after smell is as objectionable as the original smell. For instance, calcium hypochlorite acts in this way, but the bleaching powder odor that remains is not desirable on the body.

Likewise, neutralizing the odor of sweat is an intricate problem. The neutralization of an odor is the process of mixing another odor with it so that it is robbed of its intensity as an evil smelling compound In order to understand how this works something should be said here of the olfactory process in the human being. Less is known about the sense of smell than any of the other four senses. Its study lies not in the realm of physics, of chemistry, of psychology, but rather in a combination of all three. The old theory of the bombardment of the olfactory nerves by smell molecules has been discarded. The sense of smell in man is lodged in about one square inch of epithelium situated up behind the nose. This small area is covered by mucous, through which project small hairs. Each hair passes through the epithelium and connects to a rod-shaped cell. From this cell an olfactory nerve fibre joins the main nerve which goes to the olfactory center in the brain. The physical theory of smell defines an olfactory sensation as a measure of the kinetic vibration of a layer of molecules on the mucous of the epithelium. Different odors are caused by molecules vibrating at a different rate. The chemical theory of smell defines an olfactory sensation as a measure of the concentration of the odorous molecules dissolved in the mucous layer. Different odors have different rates of solution in this layer. In the physical explanation, the hair-endings act as transmitters of molecular vibration. In the chemical explanation they act as indicators of solution concentration.

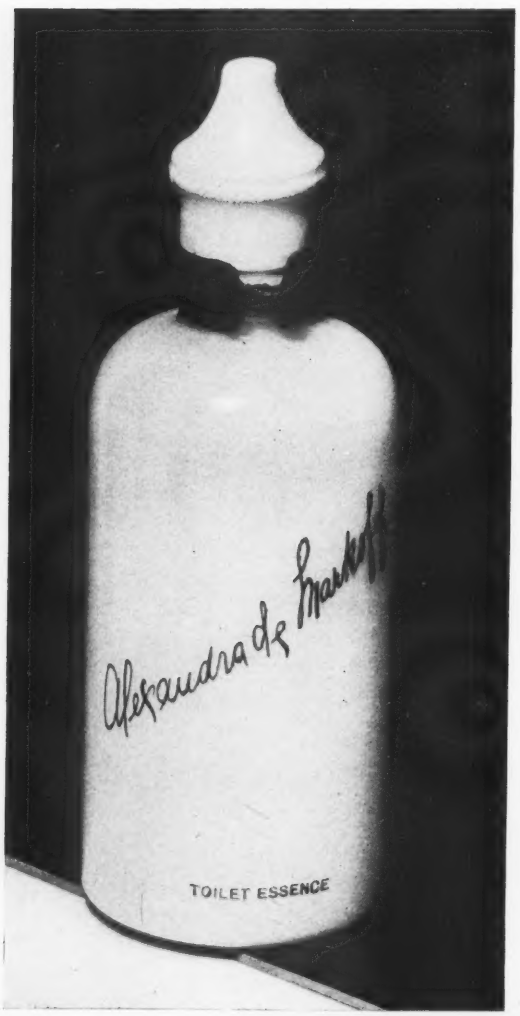
When only one odor is being sensed at a time, a layer of molecules of that substance completely covers the area of the epithelium, or, in the chemical sense, only the molecules of that substance are going into solution on the mucous layer. In the physical sense, another odor will neutralize the smell of the first when enough new molecules displace the layer of molecules already on the epithelium to make the total vibrations transmitted from one type of odor equal to those of the second. Or, in the chemical sense, neutralization will take place when the new odor molecule has reached solution equilibrium with the first.

The intensity of odors is percieved in varying degrees by different individuals depending on the sensitivity of the nose. The quality of odors is also a varying factor in different people. Some people prefer heliotrope to rose. Some people like the odor of limberger cheese, others are nauseated by it. Odor qualities are largely a matter of association and its study lies in the realm of psychology. However the problem of neutralization, as far as quality is concerned, is not difficult in that the average person draws a sharp distinction between pleasant and unpleasant odors. Neutralization does not necessarily mean complete absence of odor. It concerns itself with mixing another odor with the foul one to get a different odor which is not unpleasant to any-



House of Tre-Jur has introduced several new bath ensembles of dusting powder, bath powder, talcum, and soap. They come in several designs and in all popular bathroom shades. Loose powder compacts to harmonize with the new spring shades are also presented, each having a novelty stone in the center.

A new toilet essence by de Markoff (below) is packaged in a milky white bottle with the name in red script across the bottle, which has a sprinkler top covered with a cap and tied with a red bow.



The Italian Balm package (below) was awarded the cup for the carton group in the All-American Twelve packaging contest sponsored by "Modern Packaging." Photo by Heetfield-Tillou Studios, reproduced from "The Phoenix Flame."

body. In other words one of the constituents of a deodorant should generate another odor to blend with the body odor and give a neutral one which may be pleasant but cannot be unpleasant.

It is quite important that the deodorant have some bactericidal effect. Bacteria acts as a catalyst in the chemical change producing smell in sweat. Perspiration, although it is first acid, gradually becomes alkaline in the presence of bacteria which acts upon the nitrogenous substances to form ammonium carbonates and ammonia. Most of the astringent substances suggested for deodorants have some antiseptic property. Substances which are odor killing or odor neutralizing may or may not be antiseptic in quality. (See Table I.) The destruction of *all* odor by removing bacteria is still a moot question. Certainly on sweat surfaces exposed to violet rays there is no odor development. Recently a deodorant preparation has been prepared by charging it with ultra-violet light of short wave length. The secondary emanation from substances charged with ultra-violet escapes at a longer wave length than the primary or entering ray. The particular value of the new process is that the secondary emanation from the treated cream, wax or oil lies within the bacterial range of ultra-violet. A product treated by this process may be of great importance as a future deodorant in that it will kill bacteria as long as emanation is taking place. This period is from thirty to sixty days from the time the product is taken from the container. The emanating rays over a long period of time cause, it is believed, an infinitesimal tanning of the skin. Everyone knows the clean odorless feeling of the sun-tanned skin. The Bedouin never takes a bath; yet he rarely has a body odor. The exposure to the violet rays of the sun produces skin sterilization and the absence of bacteria prevents excessive breaking down of perspiration into odorous materials.

From an examination of Table I it is apparent that here is a good starting point for the development of a good deodorant. In making a liquid, paste or cream, or waxy stick deodorant, the combination of two or three compounds with the base may be necessary to obtain the ideal product. Question of solubility, concentration and consistency are naturally a matter of calculation and essay. Least known of any of the properties given in Table I is the odor-killing or odor neutralizing property. There are electric ears to measure sounds that the ear cannot hear; there are electric eyes to measure light that the eye cannot see; there are electric tasters to discriminate between tastes more accurately than the tongue; there are machines that measure more sensitively than the sense of touch; but until the present there is no accurate measurement of the intensity of an odor.

In order to arrive at a quantitative measure of the intensity of smell, the writer has been experimenting with an improved olfactometer. Standard solutions of perspiration-body-odor are being used. The experiments are being carried out in every way to stimulate body odor and the effects of the various reagents noted. The minimum amounts of substances required to kill or neutralize the odor will determine the anti-odor coefficient of that substance for body odor. These results will be published in the near future.

Table I. Comparison of Deodorant Properties of Substances

Substance	*Has it Astringent Properties?*	*Has it Odor-Killing or Odor-Neutralizing Properties?*	*Has it Bactericidal Properties?*	*Is it Non-Toxic?*	*Is it Non-Irritant?*	*Is it Pleasant-Smelling?*	*Remarks*
Alum (double salts)	Yes	?	Lowest of Al salts	Yes	No	Odorless	Powerful Astringent
Aluminum Chloride	Yes	?	Yes	Yes	Yes	Odorless	Over 30% irritant
Aluminum Sulfate	No	?	Yes	Yes	No	Odorless	
Aluminum Subgallate	Yes	?	Yes	?	?		Insol. in H_2O
Alumnol	Yes	?	Yes	Yes	Yes		
Benzoic Acid	No	?	Yes	Yes	Yes	Odorless	
Salicylic Acid	No	No	Yes	Yes	No	Odorless	Insol. in H_2O Softens skin
Chloral Hydrate	No	Yes	Yes	?	Yes	Chlorine (Slight)	For hands in Dissecting Room
Sodium Perborate	No	?	Yes	Yes	Yes	Odorless	
Calcium Hypochlorite	No	Yes	Yes	Yes	Yes	Ohlorine	Odor associated with smells
Calcium Borate	No	Yes	Yes	Yes	Yes	Odorless	A dessicant
Tannalum	Yes	?	No	Yes	Yes	Odorless	Dusting powder
Zinc Oxide	Yes	?	Yes	Yes	Yes	Odorless	For skin irritation
Zinc Stearate	No	?	Yes	Yes	Yes	Faint	A. M. A. says talc as good
Zinc Salicylate	Yes	?	Yes	Yes	Yes	Odorless	
Zinc Sulfate	Yes	?	Yes	Yes	No	Odorless	Caustic

Rose Laird has completely repackaged her entire line with a color scheme of green and white, with spots of black and gold. The bottom of the labels carry a green background. All caps are white, being of plastic on the bottles and double shell metal on the jars. "Outserts" are used on the backs of the packages as shown on the bottle at extreme right of photo. Powder, lipstick, rouge, mascara, are green with gold monograms.

Guerlain has added Vol de Nuit to its line of perfume odors. It is contained in a square crystal flacon of two and three-quarter ounces, decorated with a metal label. Outer carton is zebra striped in brown and white.

English Peach (below) is the latest face powder shade by Yardley, designed for women of medium coloring to bring out the skin tones. It is packaged in typical Yardley fashion.

What's New in Medicines

We are compiling a comprehensive index of these new products from foreign countries. Thus we will be able to trace them back for those who desire information.

Viminta Rauten—Contains Iceland moss, marshmallow bean, extract of licorice, oil of eucalyptus, menthol, gum arabic and sugar. For hoarseness, coughs, catarrhs. Weckerle and Beringer, Feuerbach, Wurtemburg, Germany.

Arteriol—Biochemical complex preparation. Six capsules, each containing another white powder, 6 to 13 grams each, as follows:—magnesium phosphate, potassium sulfate, disodium hydrogen phosphate, calcium phosphate, sodium sulfate and magnesium dioxide. For conditions leading to hardening of arteries.

Atmanod—Liquid homeopathic preparation, containing belladonna, ignatia amara, coffea arabica, laureocerasus and cactus. For heart troubles. Atmanod & Co., Berlin-Steglitz, Germany.

Diajapin—Mixture of botanical powders containing jambul seeds, whortleberry leaves, vaccinium, potentilla aurea rub., fructus herba luciglan., radix puginsum. Prophylactic for various purposes. Johannister Apotheker, Berlin.

Alkapan—Silvered pills, 0.259 gram in weight. Contain 6 mgm. decamethylene-diguanidine phosphate, 5 mgm. sodium glycollate, 75 mgm. semen syzygium, yeast, pulverized pancreas, extractum rhizoma galangae (chinese ginger) 0.25 gram each. Peroral treatment of light and medium severe cases of diabetes. Administered 3 times daily, 2 to 4 pills each time, half hour after meals. Dr. Fresenius.

Argala—Powder. Contains herba lobeliae pulverized, folia stramonii, folia bella-donnae pulverized and potassium nitrate. For asthma. Adler Apotheke Paul Sadec, Berlin-Friedenau, Germany.

Blanka—White oval tablets. Contain aluminum sulfate, boric acid, starch. For fluor albus, vaginal inflammations and vaginal catarrhs. Alte f. e. Hofapotheke Salzburg Ph. F. Willvonseder & Co.

Buccamos—Tea. Consists of buchu leaves, folia orthosiphon stamineus, rupture wort, herba galeopisae, bearberry and aromatic herbs. Strong diuretic action for internal urogenital treatment and uric acid diathesis. Dr. Seiderer Germania Apotheke, Dresden, Germany.

Calcidigal—Brownish powder in metallic packages. Contains lime preparation and natural vitamins. For streptococci mastitis.

Calcium Clavipurin—Pink-colored, bean-shaped tablets, each containing 0.0005 gram of pure alkaloid and 0.25 gram of calcium resorpta, combination of clavipurin (containing total alkaloids of secale cornutum) and calcium resorpta, a combination of calcium lactate and saponin component, increasing resorption. For inflammations and adnexogenic bleeding, metorrhagia, menorrhagia, functional bleeding in puberity. Dose, one tablet every 3 hours and varying doses according to condition. Gehe & Co., A. G., Dresden, Germany.

Citocard—Colorless, clear liquid in ampoules containing 20 cc. Contains 0.2 gram caffein-sodium salicylate, 0.03 gram raz. ephedrin, digitalis in activity of 280 fresh doses, 3.75 gram grape sugar, 0.01 gram hydroxybenzoic ester for preservation, and distilled water to 200 cc. For heart troubles, acute insufficiency of circulation, etc. Chemische Werke vormals H. & E. Albert, Wiesbaden-Biebrich, Germany.

Disulphamin—Tablets. Contain ortho-oxybenzoyl-sulfonucleino-formaldehyde sodium salt and dimethyl-amino-antipyrine camphorated. For influenza, colds, otitis media, pneumonia, sepsis post partum and sepsis after operations. Bio Chemical Laboratories Ltd., Locarno, Switzerland.

Dosetal (Dosettae Antidoloncae)—White tablets. Contain molecular quantities of diethylbarbituric acid and 2-aminophenazone. For toothaches both before and after dental treatment, headaches, trigeminus neuralgia, rheumatism, gout, sciatica. Dr. Koenig G. m. b. H., Muenchen, Germany.

Dumex—Drops. Contain 0.5 gram potassium iodide, 0.25 gram lithium citrate and 0.75 gram tincture of cochicina. For gout. Laboratorium Miros. Dr. K. and H. Seyler. Frabrik Pharmazeutische Praeparate, Berlin, Germany.

Dumex—Sugar coated fills. Contain 0.04 part lithium carbonate, 0.125 part hexamethylenetetramine, 0.02 part extractum colchicenae sem. spis. 0.125 part sodium borate and 0.2 part sugar. For rheumatism. Same manufacturer.

Duonettae Colic Drops—Contain ethyl formate, atropine sulfate, cham. coloc., droscorea (wild yam root), of oil of turpentine, all in homeopathic dilution. Dr. Willmar Schwabe, Leipzig, Germany.

Duonettae VIIa—Contains berberis vulgaris, cardamomum majus, chamomile, peruvian bark, golden

seal, juniper, lycopodium, menthol piperita, quassia, taraxacum, thlasp.b.p., turt., calcium carbonate, copper acetate, magnesium chloride, phenol, sulfur, mercurius dulce (mercurous chloride), sodium cholate, podophyllum and ricin. For inflammations of gall bladder, gall passages, circulatory disturbances in liver, abscesses in liver, jaundice, retardation of flow of gall, gall stones, digestive disturbances, which are connected with aforementioned diseases or which are derived from them; also for uric acid diathesis and other metabolic disturbances resulting from liver troubles. Dr. Willmar Schwalbe, Leipzig, Germany.

Emser Inhalation Balsam—Contains menthol and eucalyptol together with various balsams. For pharyngeal catarrhs. Apotheker am Kursaal, Bad Ems, Germany.

Emser Nose Oil—Reddish, clear liquid in flasks. Contains camphor, eucalyptol, menthol, paraffin, chloroform-acetone. For nose and pharyngeal catarrhs. Same maker.

Exdolan—Tablets and capsules. Contains acid acetylsalicylic, phenacetin, amino phenazone, diethylmalonylcarbamide. For headaches, neuralgia, sciatica, gout, rheumatism and colds. In capsule form used for toothaches. Dr. C. V. Stroevers Koenigin Luise Apotheke, Berlin.

Filichlorol—Turbid liquid containing benzene-filixin and tetrachloroparaffin. For distomatesis and other liver troubles of animals. W. Hoffmann Toenning a. Eider, Germany.

Stappa—Carbuncle pills. Contain stann., sulfur iodatum, ars. hom., bolus, faex and aromatics. For conditions arising from blood impurities, eruptions on skin, carbuncles, boils and other inflammations and infections. Gottfried Schaefer, Passau.

Gocklin—Salve. White, smooth, non-fatty product containing thymol, aluminum betanaphtholsulfonate and glycol stearate base. For eczemas, cracks in skin, proctitis, oxydiuriasis, hyperhidrosis, trophoneurotic skin disturbances, artificial eczemas and idiopathic formation of blisters, itching skin and nettle fever. Dr. Koenig, Bad Aachen, Germany.

Gruen Hagetten—Also called foaming migraine pastilles. Six double tablets in glass tube, one white and one pink tablet. In each double tablet is contained as active ingredient pyrazolon derivative in stable form developing carbon dioxide in aqueous solution. For headaches, migraine, head and facial nerve pains. Dr. C. Gruenhagen, Berlin.

Haemosamum—Light red, aromatic tasting, clear liquid. Contains lecithin, iron, manganese, sodium glycerinophosphate, blood salt, aromatics, glycerin, sugar. For anaemia, chlorosis, pernicious anaemia, weakness, nerve troubles, metabolic diseases, convalescence after operations and loss of blood. Fr. Quantmeyer Haemosan Fabrik, Berlin, Germany.

Haemosanum—Pills. Contain iron, manganese, physiological salt, extractum chinae calisayae amara. Pills coated with graphite. For anaemia, blood circulation troubles, headaches, stomach troubles, neurasthenia, weaknesses of all sorts. Fr. Quantmeyer Haemosan Fabrik, Berlin, Germany.

Hidro Milkuderm—Soft, white cream in tubes. Contains milk and hexamethylene-tetramine. Used as biologically active and odorless cream in hyperhidrosis in all locations, dyshidriodic, intertriginosic eczemas, etc. Desitin Werk Carl Klinke, Hamburg, Germany.

Hypagin—Reducing tea. Contains extracts of rhubarb root, star anise seed, alder buckthorn, licorice, sassafras bark, yarrow root, peppermint, senna leaves and fucus vesiculosus (bladderwrack). Dr. Koenig G.m.b.H., Muenchen, Bavaria.

Hypnosediv—Tube containing 20 tablets. Each tablet contains 0.3 gram of bromoisovalerylurea and 0.05 gram of dimethylamino-phenyldimethyl-pyrazolone. Sedative, hypnotic in neuralgia, neuroses, etc. Dose as sedative one tablet several times day; as soporofic two to three tablets in hot drinks. Goda A.G., Breslau, Germany.

Icmerol—Brownish yellow powder in aluminum tubes for dusting use. Contains boric acid, menthol and finely pulverized mixture of various botanicals of crucifer family, composite and nicotiane species. Prophylactic and medicament in colds, powder being applied to nostrils. J. Rozanski & Co., Chemische Pharmazeutische Produckte, Mainz, Germany.

Kajophosvit—Good tasting syrup; also called lime-iodine-iron fruit syrup. Contains ferric lactophosphate and ferric iodide. For rickets, scrofula, under-nourishment, loss of appetite. Einhorn Apotheke, Dr. J. Urbahn, Wuppertal-Elberfeld, Germany.

Larynxetten—Tablets weighing half gram each. Contain menthol, borax, anaesthesin, ephedrin, paraformaldehyde, trypflavin JG and calcium compounds. For all kinds of catarrhs of upper respiratory passages, etc.; in asthma, bronchitis, laryngitis, pharyngitis, tracheitis, etc. Hirisan Gesellschaft, Leipzig, Germany.

Lecicarbon—Preparation for use as suppository, yellowish brown in color. Contains salts, which produce carbon dioxide, and pure lecithin, added as protective colloid in coconut oil. For habitual constipation in case of bed-ridden people, in case of women in childbirth; used to prevent constipation, intestinal troubles leading to constipation in various conditions, particularly after operations. Athenstaedt & Redeker, Hemelingen bei Bremen, Germany.

Actinogen—Pyrazolone-quinophenol-sulfocarboxylate. For rheumatism, neuralgia, and migraine. Chemische Fabrik Dr. G. Robisch G.m.b.H., Muenchen.

Amphotropin—In solution form. Contains 40% hexamethylenetetramine camphorate in ampoules which hold 20 cc. each. For cystiditis, pyelitiditis, meningeal diseases. I. G. Farbenindustrie A.G., Frankfurt-am-Main, Germany.

Depilatories

Depilatories are always popular items. This article gives the preparation and ingredients of products of the popular types.

AMONG the best sellers are depilatories. there is considerable danger in selling them owing to the fact that practically all cause irritation if not carefully used. As many people have a definite idiosyncracy for depilatories some cosmetic houses will not market them at all owing to the contingent danger of lawsuits and the consequent unfavorable reaction upon other products of the line. However, depilatories have been used from time immemorial and will continue to be used so long as hair grows where it isn't wanted.

Perhaps the best policy in selling depilatories is to state frankly on the label that they are irritating and that if the user has a sensitive skin she had better make a reaction test before spreading the stuff over large portions of her anatomy. This test can be made on the arm by applying the depilatory according to directions and leaving it on a minute or two longer than the required time. The reason for the time difference is that the hair and skin on the arm are coarser than on some other parts of the body. The armpits especially are likely to be a sensitive spot owing to confined area and copious perspiration. Be very explicit about directions, warning the user that failure to observe precautions will certainly be dangerous.

Depilatories may be classified as liquid, paste, powder and wax. The last properly speaking is not a depilatory at all but is simply a wax which affords a mechanical means of removing hair by pulling it out. The materials commonly employed are the sulfides of calcium, barium, potassium, sodium and strontium. Thalium acetate has been used but is highly poisonous and therefore illegal.

As a rule directions should specify that the surface to be de-haired be thoroughly cleaned and dry. The depilatory should then be applied and allowed to remain on for five or six minutes, the time being, to some extent, governed by the sensation of smarting, and then removed with warm soapy water. Finally, the skin should be patted dry and treated with cold cream.

The following formulas are provisional only and are intended to suggest a line of experimentation, the materials commonly employed and also manufacturing procedure. It is emphasized that these preparations be made up and carefully tested before being placed on the market. Beware of irritation and toxicity!

The first group, the powders, are usually sold in air tight containers with directions to make a stiff paste with water just before using. Before describing these products further it is well to point out that depilatories give off a vile smell and in consequence should be segregated from all other manufacturing to prevent contamination. The filling is usually done in the mixing room. Use a sealed mixer and be sure that workers are properly protected with impervious aprons and masks. Use containers with wide months and without shoulders which can be filled and tamped easily without causing too much dust.

DEPILATORY POWDER NO. I.

Titanium Oxide	7 lbs.
Barium Sulphide	12 "
Rice Starch	20 "
Menthol	2 ozs.
Perfume (Benzaldehyde)	2 "

Procedure: Mix menthol and oil, add to part of starch and mix tho oughly. Mix TiO_2 and the barium in a tub, sift into the mixer through a coarse screen, add the starch, close the mixer and mix thoroughly, making sure that the mixer cover is a'r tight. Fill at once and quickly.

DEPILATORY POWDER NO. 2.

Sodium Sulphide	10 lbs.
Pulverized Castile Soap	2 "
Wheat Flour	16 "
Precipitated Chalk	16 "
Benzocaine	2 ozs.
Rose Geranium to suit	

Procedure: Sift and mix thoroughly as above and fill at once.

DEPILATORY POWDER NO. 3.

Calcium Sulphide	8 lbs.
Barium Sulphide	6 "
Calcium Hydroxide	7 "
Wheat Starch	35 "

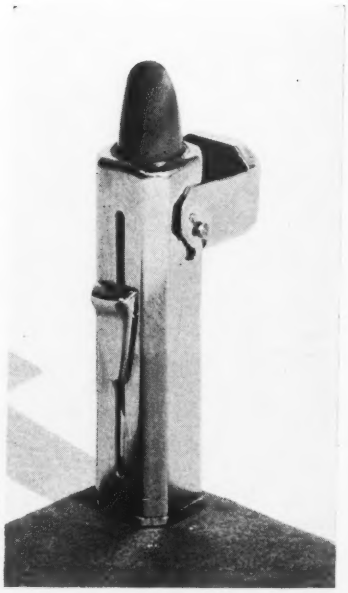
Procedure: Mix thoroughly as before.

Sodium Monosulphide	10 lbs.
Calcium Oxide	10 "

(*Continued on page 230*)

The attractive O-Cedar package was awarded the Wolf Award for 1932 in package design competition by the National Alliance of Art and Industry, sponsored by the American Management Association. The orange color of the cap and label is particularly striking against the whiteness of the product. Photo by Heetfield-Tillou Studios, reproduced from "The Phoenix Flame."

Glamour de Chanel (below) is a delicate and lasting bouquet newly presented. It is packaged in typical Chanel manner in five sizes.



Charles of the Ritz has introduced a still different automatic lipstick capable of one-hand operation. Raising the lever pushes back the cap and raises the stick.

Three Factors of Packaging

By Francis Chilson

Packaging serves three functions: technological, production, and merchandising. Each of these three must be fully satisfied or the package will not be permanently used.

Now that the packaging hysteria is at flood tide, it seems opportune to cast up the account and strike a balance in order to keep our feet on the ground and not be carried away on the wave of enthusiasm sweeping now through every industry. As a nation we habitually carry everything to extremes, and this is nowhere more evident than it is in the field of packaging, which, from the writer's point of view, has not yet been rationalized. It is not in a carping spirit that we wish to point out certain defects in claims generally made for packaging. Our aim is simply to start a discussion, which, we hope, will prevent waste and place the emphasis where it belongs.

As a first principle we wish to emphasize that we regard packaging as one of the most constructive influences in industry. We do not minimize its importance an iota, but we think that the merchandising phase is grossly over-emphasized at the expense of the more permanent phases of packaging: the preservation phase and the production phase. Package design and package designers would play a very important part in our economic scheme if they did nothing else but provide, by means of new packages, better protection for the merchandise and, by means of standardization, a reduction of packaging and production costs. The reason for this is that many old, established packages are not economical from a materials standpoint, a production standpoint and they do not give adequate protection to the contents. In cases like this the designer who effects a practical change is performing a profitable service even though the merchandising aspect should be disregarded entirely. The important thing to bear in mind is that the package is only temporarily a merchandising device, whereas it is always a production device, hence, any production deficiency tolerated now because of merchandising considerations, becomes a permanent feature of the package and always remains to plague the production man. A new package is useful as a merchandising device for only one or two years when it loses the novelty and news value which gave a stimulus to advertising and assisted in catching the customer's eye. After that if the product is not of sufficient merit to build business the package, however artistic, will certainly not do it.

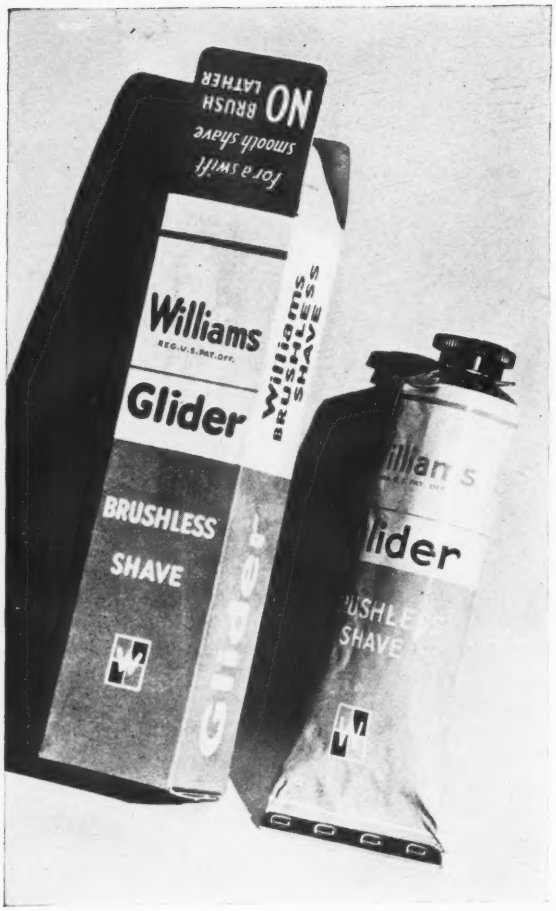
We must remember that ten or fifteen years ago the package was regarded as of little importance in merchandising. Who can tell whether in the changing economic scheme, it will still be as highly regarded as a merchandising factor ten or fifteen or even five years hence? But regardless of the merchandising status of the package in the future one thing is certain: it will always be a production unit.

Hence, as a recent commentator put it, the package must be regarded as a three legged stool. One leg is its technological function; one is its production function and one is its merchandising function.

The technological function is placed first because the goods must always be given adequate protection regardless of all other values. If your product must be hermetically sealed and you haven't the equipment with which to do it, then you must get the equipment. You have no alternative. If your product reacts with glass you cannot use glass no matter how much it would facilitate sales to use a transparent container. If your product attacks cork you may not use corks or cork liners in your closures.

Now, this feature of preservation has been given altogether too little attention by the cosmetic branch of our trade especially. Recent researches have shown the presence of mold spores in various creams. The same researches have indicated the presence of pathogenic bacteria in creams which are rubbed on the face and hence are dangerous. These and other conditions which will come to light as the trade approaches technical maturity may force a change in production methods and technique and also in the packages designed to convey merchandise to the ultimate consumers. So, therefore, we must first provide for the technological aspect which is growing in importance throughout all branches of the trade, even though at present its great importance is obvious only in the careful packaging of serums and biological products and the various vitamin products that require unusual care in order to preserve them.

So regardless of what we may like to do in regard to production and merchandising, the design of the package must first be subordinated to technological considerations. Then we have the problems of pro-



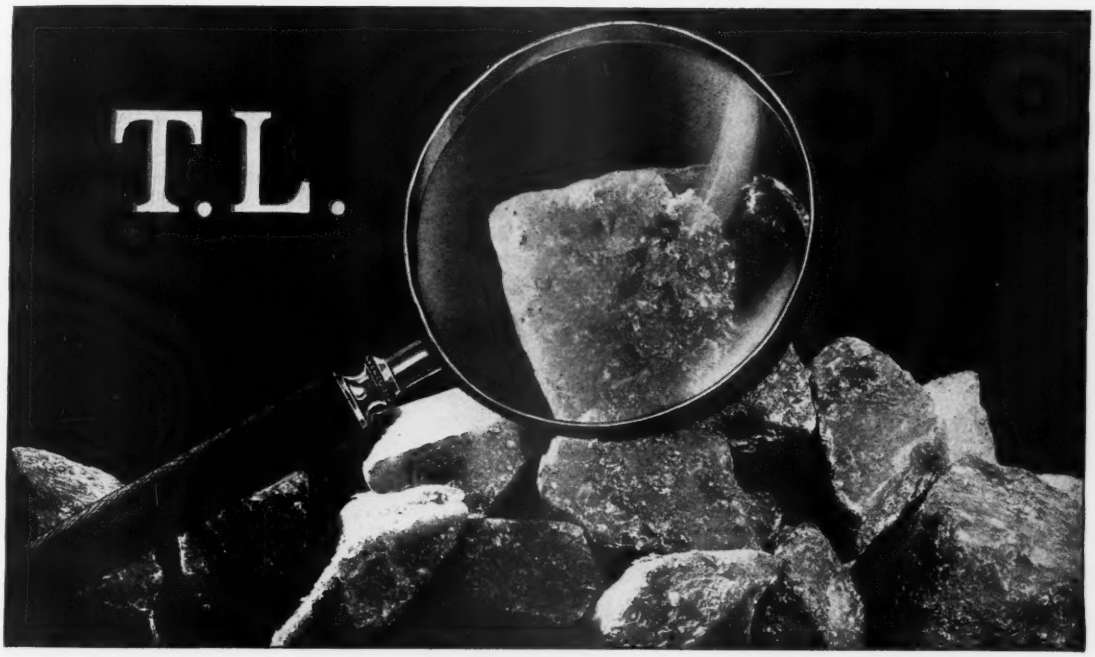
Williams Glider is the name of a new brushless shave offered by J. B. Williams Company. Colors of the package are red, white and pale blue.

The Wm. S. Merrell Company has repackaged its Milk of Magnesia in a more modern style as shown below.

Ambrosia Face Powder (lower left) is being introduced in a new combination offer with Ambrosia and Ambrosia Skin Cream.

Merrell's
MILK of
MAGNESIA
U. S. P. Standard
Made by a special process
SHAKE WELL BEFORE USING
Adult-As Antacid, 1 to 3 teaspoonfuls after meals. -As Laxative, 1 to 3 tablespoonfuls before breakfast or at bedtime.
Children-¼ to ½ adult dose.
Infants-As Laxative, 1 teaspoonful
As Antacid, 1 teaspoonful to each quart of feeding.
KEEP FROM FREEZING
ONE PINT 202-M-50
THE WM. S. MERRELL COMPANY
CINCINNATI – U. S. A.

CLOSE INSPECTION



OF ALL CRUDE BEESWAX

Insures T.L. *Quality*

We get the highest grade crude beeswax obtainable. Then we go over it piece by piece. The slightest flaw is sufficient for rejection. Only *perfect* crude beeswax is used in the preparation of T. L. PURE WHITE BEESWAX. It is 100% pure in color and quality, and higher than U.S.P. standards.

PIONEER BRAND, PURE REFINED YELLOW BEESWAX is unbleached, but made from the same high quality crude beeswax. Samples on request.

Over Eighty Years of Continuous Business

THEODOR LEONHARD WAX CO., INC.
HALEDON, PATERSON, N. J.
WESTERN DISTRIBUTOR: A.C. DRURY & CO., 106 E. AUSTIN AVE., CHICAGO

duction: cleaning the container, filling, sealing, labeling, cartoning and wrapping. These problems we have before discussed in detail. They remain always with us. The impractical package which (because of present merchandising conditions gives a temporary zip to sales) is foisted upon the factory always remains a production problem, and, in the long run, far offsets merchandising advantages.

Finally, we come to the merchandising leg of the packaging stool. Our merchandise must be sold and every device which facilitates this objective is valuable. But just how important is the package in securing first sales and second or repeat sales? Obviously it is more important in selling cosmetics, which, too often, have nothing else to recommend them, than it is, for instance, in selling ethicals which are disposed of through physicians. Even in the field of cosmetics the claims made for packaging would seem to be counteracted in part by the success of two of the largest firms in the trade, neither of which has changed its packages in fifteen years. Apparently these firms are selling products and not packages. In view of the fact that so many ugly packages, both pharmaceutical and cosmetic are outstanding successes and have been for years, we feel that the merchandising phase of packaging has been over-rated while technological and production phases have been *under-rated.*

For these reasons we think the future will tend to shift the emphasis where it belongs. We think that packaging is of the utmost importance even if it had no function other than to maintain the impression of order, cleanliness and attractiveness that should be associated with every reputable house. Packaging will make sound progress of course, and the soundness of that progress will depend upon the consideration given technological and production considerations and the distinctions drawn in regard to merchandising.

To failure in drawing distinctions may be laid most failures in packaging. The problem of packaging a high priced lotion or perfume is not the same as the packaging of a fifty cent cough syrup. One is a low volume, hand or partly hand production problem; the other is a high volume semi- or fully automatic problem. These distinctions relate more to the method of production than to the cost and nature of packaging materials. Expensive packaging materials may be used for high volume products, assuming that profit margin permits, without necessarily impairing production effectiveness, provided due care is taken in order to make sure that production and technological problems are provided for. Indeed, there are innumerable instances where an increase in packaging material cost has been more than offset by decreases in production costs made possible by the new packages. Again, a cheap package is not essentially a good production package. Many old time proprietary packages are cheap from the materials standpoint but expensive from a production standpoint. You can have a cheap package which is a good production package. You can also have an expensive package which is a good production package. And in the final analysis a good technological and a good production package may also be a beautiful package. There is no essential incompatibility. And almost without exception a package which is technically correct is also a good consumer package and generally fulfills all that is meant by the term, "consumer convenience." Refusal to consider *the basic* functions of the package is the principal cause of failures.

New Uses of Aspirin

By Earl B. Putt*

As is well known, Aspirin is now used in medicine almost exclusively in dry form suitable for swallowing or for local action on the mucous surfaces of the mouth and throat. Occasional attempts to use the drug in solution have been rather unsatisfactory because of the fact that Aspirin breaks down rapidly in the presence of water or alkalies such as sodium bicarbonate used in preparing such solutions. Even solutions in 95% alcohol show rapid decomposition within twenty-four hours with formation of salicylic acid and acetic acid. The instability of such solutions may perhaps explain the lack of attempts to employ solutions of Aspirin for any purpose in medicine. While the present available tablets and other forms of Aspirin medication are suitable for internal administration, various solutions of Aspirin offer interesting possibilities for external use.

As a result of extensive experiments I have found that stable solutions of Aspirin can be made with a number of solvents having the common property of being free from water and with no constituent which will react to decompose the Aspirin. Heavy oil of camphor, a common ingredient of liniments, is a solvent of this type and a 5% solution of Aspirin in this material shows no trace of free salicylic acid even after several months. Methyl salicylate also dissolves Aspirin in the same way and at once offers the interesting possibility of using a solution of Aspirin in methyl salicylate as a rub or liniment. Such a solution may well be expected to provide an improved analgesic for muscular or rheumatic pains, since it is well known that methyl salicylate is absorbed readily through the unbroken skin. This fact is noted in New and Non-Official Remedies of the American Medical Association 1932. Cushny, in Pharmacology and Therapeutics also calls attention to the fact that methyl salicylate is quite readily absorbed by the skin as proved by the presence of salicyluric acid in the urine after such application.

Tests of such absorption by actual trial of Aspirin solutions in various solvents otherwise free of salicylic acid have demonstrated that salicyl compounds appear in the urine after external application of such preparations. This would appear to open a new field for Aspirin that offers considerable promise. An Aspirin rub, for example, containing 30 grams of Aspirin to the ounce in the following base appears to be very effective:

Aspirin	16 grams
Acetone	10 cc
Methyl Salicylate	50 cc
Glycol Oleate	10 cc
Oil of Cassia	2 cc
Oleoresin of Capsicum	20 cc
Oil of Cloves	2 cc
Oil of Camphor	140 cc
Cottonseed Oil	15 cc

The formula given is of the rubefacient type and contains rather more capsicum than would normally be used, since there is a distinct analgesic action from the Aspirin that tends to counteract the capsicum. For absorption of the Aspirin, hy-

*Patent pending.

Which Cream *are you making!*

DARK, discolored creams; amber blotches; rancid ageing creams;—how often do you see this when you remove the cap from a beautiful jar?

Hidden impurities—residues of tar or asphaltum found in many lanolins—are the secret enemies destroying the cream you have made with so much pride and care.

Through an exclusive process of refining all these impurities are removed from B-W Lanolin. For this reason B-W Lanolin has a fine light color, and is practically odorless.

Actually it turns *lighter* with age and does not acquire the slightest rancid odor.

B-W Lanolin is made from the finest selected wool grease; it is refined by a process which avoids both the use of undesirable solvents or the partial refining when centrifugal machines are used. This B-W process *does not* remove any of the valuable oxy or isocholesterins.

B-W Lanolin will meet the most critical comparative tests for quality, color, odor and uniformity.

Most important, these qualities *last*.

May we send you a sample?

BOPF-WHITTAM CORPORATION

SALES OFFICE
EMPIRE STATE BLDG.
NEW YORK, N. Y.

First American Manufacturer of
Refined Lanolin, Hydrous and Anhydrous
. . Established 1914 . .

MAIN OFFICE
and PLANT
WESTFIELD, N. J.

peremia of the surface is an advantage. In such a rub it is not to be expected that the effective dosage of Aspirin absorbed into the circulation would equal that obtained by oral administration. Yet the amount which is absorbed reaches the local inflamed area, and exerts an analgesic effect.

A rub having only analgesic action can be obtained without the addition of the capsicum, and if a cream or ointment preparation is preferred, the base is one of the fatty bases free from water. Such a preparation for the relief of a local pain immediately suggests the possibility of treatment of sunburn. Here, again, is an interesting application of Aspirin, for the drug reflects ultra-violet light with a strong blue fluorescence. Not only may it exert its local analgesic effect in the treatment of sunburn, but may also act as a protective similar to quinine bisulphate. A cream of this type containing 3% to 5% Aspirin, 1% to 2% menthol in a base of equal parts glycol oleate and petrolatum is a very soothing application.

The following solvents indicate the possibilities of this use of Aspirin, in all of which it is soluble in varying proportions up to about 15%: Glycol oleate, camphor oil, acetone (stable only when perfectly dry) lard, lard oil, seed oils, hydrogenated oils, cocoa butter, ethylene glycol, ethylene-glycol-methyl-ether, ethylene-glycol-ethyl-ether, dioxan, palm oil, cocoanut oil, methyl salicylate, ethyl salicylate, sulphonated oils, oleic acid, petrolatum, peppermint oil, pine oil, lavender oil, all of which should be free from water and free from water-soluble acidity.

In the external application of Aspirin either in the form of a liquid or ointment rub, there is the advantage of high antiseptic action of the Aspirin. Also in treatment of sunburn, the antiseptic action is supplemented by the local action of the acetyl-salicylic acid on the inflamed tissues.

The principal new applications of Aspirin based on these solutions seem to be a rub or liniment containing Aspirin in solution in methyl salicylate or other vehicle known to be absorbed by the skin and applied for relief of pain. And a soothing application for local or surface analgesic action as in sunburn. In both applications the antiseptic effect of the Aspirin is advantageous.

Although there has been occasional interest in the possible use of liquid preparations of Aspirin for internal use, the present tablets seem to make such liquid products unnecessary But for external use, where stable preparations are required, those suggested above offer an interesting new application of this valuable analgesic.

Turtle Oil Facts

(*Continued from page 211*)

It seems to be the general opinion that considerable vitamin activity attaches itself to this oil. Any statement as to its value must of necessity be supported with proofs derived only through test as suggested in the Pharmacopoeia or other equally reliable methods.

Turtle oils from various sources were incorporated in cosmetic preparations in our laboratories. It was found that when turtle oil is employed in cold creams, a lesser quantity of the waxes and spermaceti are required for a given consistency. Very satisfactory lotions containing turtle oil were prepared using triethanolamine with stearic acid or oleic acid.

With turtle oil rapidly becoming of increasing importance as a cosmetic raw material, the extent to which its use will spread will determine just what varieties of the oil will be used to fill the demand. An extremely wide use would naturally forestall the possibility of all the oil being of the green turtle variety, since this oil is merely a by-product of the use of turtles for food. However, we can easily imagine publicity on the origin of the turtle oil which a particular cosmetic manufacturer uses. And when one considers the daintiness of many of the users of these creams, and the possible aversion to the term "scavenger" or "reptile" being applied to the source of the oil for anointing their faces or bodies, the effect of this publicity opens up a field of thought.

Another Turtle Oil Analysis

A sample of turtle oil from the green turtle was submitted by the Panama Railroad, to The Drug and Cosmetic Industry for inspection. This oil was turned over to Seil, Putt & Rusby, Inc., analytical and consulting chemists, New York, and the following facts were determined regarding the oil:

Specific Gravity at 25°/25° C.	.9147
Refractive Index at 20° C.	1.4660
Acid Number	.07
Saponification Number	209.
Iodine Number	64.
Reichert Meisl Number	1.2
Polenske Number	4.
Congealing Point	13.° C.
Vitamin A (by Antimony Chloride Test)	Positive

Depilatories

(*Continued from page 223*)

Wheat Starch	40 lbs.
Titanium Oxide	8 "

Procedure: Mix thoroughly as before.

DEPILATORY PASTES NO. 1.

Strontium Sulphide	5 lbs.
Glycerine Ointment U. S. P.	10 "
Wheat Starch	8 "

Lemon oil to suit.

Procedure: Work up the glycerine ointment and the starch and then mix in the sulphide.

DEPILATORY PASTE NO. 2.

Tragacanth Jelly	5 lbs.
Sodium Sulphide	2 "
Glycerine	3 "

Terpineol to suit.

Procedure: Mix sulphide and glycerin and add to jelly.

DEPILATORY LIQUID.

Sodium Sulphide	3 lbs.
Witch Hazel	20 "

Procedure: Mix the two ingredients and bottle quickly. As this solution is unstable directions should indicate that fact.

DEPILATORY STICKS.

Resin	32 lbs.
Carnauba Wax	10 "
Boiled Linseed Oil	5 "
Beeswax	3 "

Procedure: Melt the ingredients and cast into sticks, using a lipstick or suppository mold.

Not Wanted!

Discolored Hair Wave and Hand Lotions

No more discoloration, no more cloudiness, no more production failures in your Quince Seed preparation!

Dirt, mold, adulteration or bored (insect infested) seed—this is what goes into solutions when inferior, carelessly selected or graded Quince Seed is used.

Spanish, Indian and much of the seed shipped here as Russian or Persian gives an off color and low mucilaginous content. They are false economy at any price.

Powco tested Persian Quince Seed gives you freedom from production problems and controlled mucilaginous content which saves dollars and cents.

Many leading cosmetic chemists are using our laboratory control as a sure way to secure economically a fine, clear Quince Seed solution.

We have developed a simple test which you can easily use to check the color, quality and amount of mucilage from a given quantity of Quince Seed.

Let us send you the directions for this test and a sample of Powco tested Persian Quince Seed for a critical comparative test with the material you are now using.

Manufacturers of Concentrated Shaving Cream Base and a Wide Range of Neutral Powdered Soaps, Powco Brand. The specific soap characteristics to meet your formula requirements.

JOHN POWELL & CO., Inc.

114 East 32nd Street, New York, N. Y.

TESTED PERSIAN QUINCE SEED

Management Forum

By Francis Chilson
Production Engineer

Branding vs Labeling

To facilitate earmarking large shipments we began to search for an automatic stamping machine and our researches proved to be extremely interesting and gave us an insight into industries wholly foreign to our own. As a first step we thought the machine used for branding Diamond Walnuts, Blue Goose Grape Fruit and other agricultural commodities would exactly fill the bill because an examination of such brand marks indicates the use of a machine capable of adjusting itself to an irregular surface. Hence, we reasoned, such a machine could be used for marking containers of different shapes without requiring adjustment. We located the machines that do this work and found them extremely interesting even though too costly for the work in mind. Through the kind offices of the California representative of Stokes and Smith we were put into touch with the Diamond Walnut people only to find that they will not sell their machine for any purpose but to brand Diamond Walnuts. We had better luck with the fruit people. They'll sell their machines for any purpose. Having examined these machines a bit we are led to wonder if the same principle will not some day be applied to printing labels, especially for printing direction labels directly on containers. The branding dies are mounted on endless bands, which carry the dies from the inking rollers to the fruit and back again. The fruit rolls down runways six or a dozen abreast. As they pass the branding station the dies come into contact with their surfaces, and, since, the dies are mounted on flexible cushions, they adjust themselves to the contour of the object with which they are in contact and thus the reading matter is imprinted regardless of position and shape. Naturally, there is some limit to the degree of adjustability, but it is sufficient for all practical purposes. We believe that machines of this character must also come in very small sizes, perhaps with single belts. If so we'll find out very soon. We can see a number of uses for them in our trade, to supplement labelling machines.

New Jars

One of the large stoneware companies has introduced small capacity stoneware jars provided with a new air tight closure which is easy to apply and which provides an excellent reseal. The jars range from half to six gallons capacity and are finished with brown glaze outside and white within. They may be had with bails. These containers are recommended for chemicals, reagents, dyestuffs, food products and for export shipping of drugs and cosmetics which are shipped in bulk. You can have special shapes made to order.

Belt vs. Motor Drive

Charles Ross & Son, Brooklyn, N. Y. have issued a booklet which should be in the hands of every production man. It may seem a far cry from paint and printing inks to tooth paste and vanishing cream but the principles governing the operation of equipment are the same. The booklet to which we refer is called Paint Machinery and Its Application and it discusses various types of mixing, milling, grinding and colloidal equipment. Some of the practical information therein contained bears repeating here. Ross, in summarizing the advantages of direct over belt drive says that direct drive is:—

A more positive drive, eliminating belt slippage.

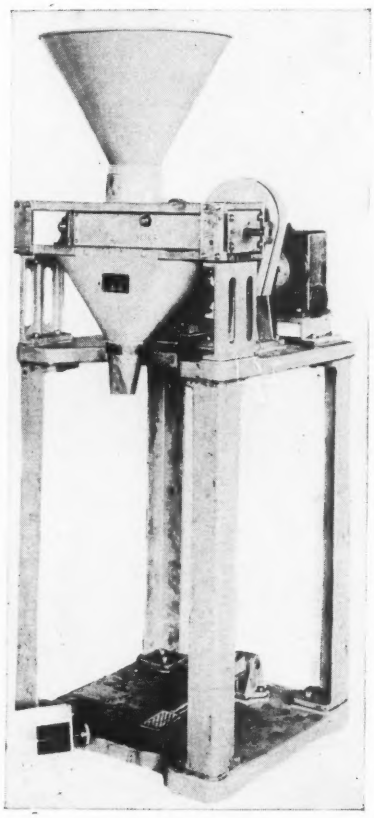
It is easier to start and stop and direct motored unit.

It eliminates overhead belting and shafting which is costly to maintain and to guard properly.

It is easier to install a direct motored unit especially in buildings not designed to carry heavy shafting.

A direct motored unit saves power because where several are in use only those which are running consume power whereas line shafting must run all the time.

A direct motored unit can be adapted to the best layout because wires can be carried to any point while belted units are dependent upon the position of line shafting.



Stokes & Smith dry filler discussed last month

Remote Control

Westinghouse has perfected a device by which it is possible to control temperature from remote points. The device can be plugged into any light socket and connected by bell wire with any number of "points". The points are called search coils and consist of small pieces of copper wire mounted on metal plates. Since more current flows in cold than in hot copper the search coil can detect differences in temperature, which are instantly communicated to the dial on the central control device. Thus, if a control chemist wanted to control variations of temperature in the drying ovens on the third floor and the melting kettles on the seventh he could do so without moving from the lab.

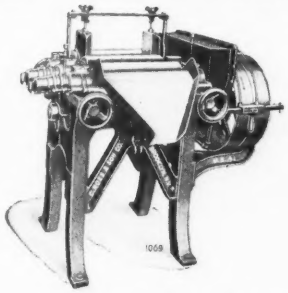
Electrical Control

Control chemists are beginning to realize that there is more to the control problem than merely checking raw materials to make sure that they conform to specifications. So many cases are in evidence where perfect materials are used imperfectly owing to inadequate control of manufacturing procedure, that mechanical means to eliminate the human equation are becoming more and more widely employed. Hence, we asked an old

ROSS

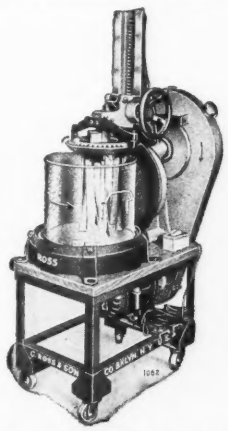
MILLS *and* MIXERS
SIFTERS *and* BLENDERS
FILLERS

Manufacturers of Quality Built Machines since 1869 for the Drug, Cosmetic and Allied Industries.

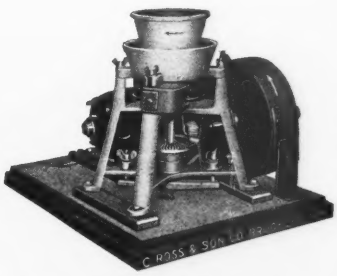


Ross No. 52 Water Cooled 6x14" Laboratory, Three Roller Mill, motor driven.

Ross No. 30E-L Size "O" or 1½ gal. Portable Electric Laboratory Rapid Mixer.



Ross No. 30-M Portable 8 gal. Heavy Duty Laboratory Change Can Mixer, motor driven.



Ross No. 18 Water Cooled 8" Laboratory Hopper Mill.

Ross No. 9-10" Water Cooled Laboratory Flat Stone Mill, with hopper feed, pulley driven.

Ross No. 36-E Liquid Enclosed Rapid Mixer.

Here are a few small sizes of Ross Machines. They are ideal for small batches, for laboratory work and for small manufacturers.

These machines are made from the smallest laboratory size to large capacity production equipment.

For Manufacturing:

Creams, Ointments, Pastes
Tooth Paste, Shaving Cream
Lotions, Emulsions, Liniments, Syrups
Powders, Face, Talcum, Medicinal
Tablets, Pills

We list below several of the different types of machines which we have furnished to the Drug & Cosmetic Industry; space does not permit us listing our full line in this issue.

No. 52 Three Roller Mills and No. 9 Flat Stone Mills: For refining shaving cream, tooth paste, color bases, lipstick, paste rouges, eye shadow, acne creams and medicinal ointments.

Style 1 Conical Mills: For milling salves, ointments, massage creams, clay packs and other preparations difficult to feed on ordinary mills.

No. 63 Buhr Stone Mills: Excellent for milling dry rouges and face powder.

No. 18 Hopper Mills: General utility mills for relatively small production; used for tooth paste, shaving cream, ointments, lipstick masses, color bases, etc. Parts coming in contact with material can be coated with or made of acid resisting metals.

No. 30 Change Can Mixers: All sizes for mixing tooth paste, vanishing creams, ointments, etc.

No. 66 Pulverizers: For high speed milling and blending of face powders, dry rouges, chemicals, etc.

No. 41 Mass Mixers: For kneading pill masses, clay packs or other materials of a heavy paste consistency.

Fillers: For collapsible tubes and jars, for filling shaving creams, tooth paste, ointments, clay packs, etc.

Tests conducted at our plant

CHAS. ROSS & SON COMPANY

83 EMERSON PLACE **'Phone: Prospect 9-8400** **BROOKLYN, N. Y.**

colleague, Mr. Fred M. Vogel of Electric Control Devices Co. of Bloomfield, N. J. to write us a little introductory note to give you some idea of the classification and purposes of control equipment. In our opinion Fred here has done a very technical job in a non-technical way:—

"Electrical control of manufacturing processes to be successful and worthy of application must produce either a better product at the same cost, the same product at a lower cost or a better product at a lower cost. There are so many electric control devices available that it is possible to automatically control almost any process so as to obtain with uniformity and economy over every operation the best possible results obtainable for any operation under manual control. It is, however, very essential to carefully consider automatic control from both the technical and economical standpoints before making its application. It is very easy to make many "tricky" applications which although very interesting to watch do not appear so well on the balance sheet.

"All instruments can be generally classified into three groups; the indicating type which gives only a visible indication or reading of conditions, the recording type which gives a permanent record on a chart of conditions and the controlling type which is equipped with means for automatically controlling the quantity being measured. These recording types can also have the features of the indicating type and the controlling type can have the features of all three *i.e.* give a visible indication, keep a charted record and control the quantity being measured. Any of these types can be supplied so as to be remote reading *i.e.* the instrument can be located at some distance from the point from which the reading is taken.

"Probably the most important and most used control is that of heat which includes temperatures of many degrees below freezing for refrigeration to thousands of degrees above for heat treating. The instruments used for the lower temperatures are the thermometers and thermostat whose operation depends upon the expansion of a solid or fluid with heat and for the higher temperatures the pyrometer whose operation depends upon the change in electrical resistance with heat. These instruments are made in the above mentioned types and many grades the choice of which depends largely upon the accuracy desired.

"Humidity control is particularly important in the drug and cosmetic industry as the success of many of its products depends largely upon the humidity or amount of moisture in the air during their manufacture. It is also very important to the worker from both the health and production standpoints. The instruments used to measure the humidity are called humidity regulators, aquastats or psychometers. They can be had in the three types mentioned above and their measurements depend upon the difference in readings of a wet and dry bulb thermometer or the change in tensile strength of a material with moisture. Standard units are available for automatically maintaining the correct humidity in a room or complete systems can be supplied to control the humidity in an entire building. These devices are also equipped with filters for cleaning and fans for circulating the air.

"The pressure and level of fluids in tanks must also be measured and controlled not only in process work but also in general plant maintenance. Instruments for measuring these are made in the three types and in great variety. The pressure gauges operating on the change in dimensions of a substance with pressure and the level gauges operating directly by means of a float or being a pressure gauge which reads the pressure at a certain point on a scale calibrated in feet of head. Due to the fact that storage tanks are sometimes located in an inaccessible place the remote reading instruments of this type are particularly useful.

"Time is a very important factor in process work and there are many timing devices on the market from the small electric light flasher button to the elaborate electrically operated program clock. Time clocks are equipped with electrical contacts which are used for turning on and off lights, heating units or the flow of fluids by means of electrically operated valves. In more complicated case an entire process can be put under time control, for example, an electric oven in which a certain degree of heat is maintained for a given period than changed to another degree of heat for another period etc.

"The Photo-electric cell or 'electric eye' is one of the newer additions to the instrument group and being new its full usefulness has not been recognized and applied. This instrument detects light, difference in light or color and can be used whenever it is desired that this initiate some further action. It is being used with success for safety work on machines, smoke detection, automatic counting, controlling lights and offers a wide use in special applications.

"Electric counters, tachcometers for measuring speed and instruments for measuring the velocity and quantity of fluids are also available for application. Instruments for special purposes which are often combinations or adaptations of the above mentioned types can be supplied by the well-known manufacturers.

"The next step in control work can be considered as the link between the instrument and the device used for controlling the quantity which the instrument measured. In many cases the contacts of the instrument are too delicate to do much work i.e. to control much current, and hence, an instrument type relay is necessary. This device requires very little current to operate but it in turn can control a relatively large amount of current. The Photo-electric cell is particularly sensitive and may require two of this type of relay. If motors are used the necessary motor starting and control devices will be included in this group. In the more complicated combinations of control equipment, control panels are necessary. These are combinations of relays and switches mounted on one panel and so arranged and connected so as to accomplish some particular purpose.

"The final step is the controlling means and includes the devices used for directly controlling the agent used: steam for heating, electricity for lighting or liquids to fill a tank. If electricity is used it is necessary to use switches with the required fuses and safety devices. If it is desired to control the flow of fluids, steam to a heating kettle or air to a whistle,—electrically operated valves are used. These are of two types, the solenoid operated and the motor operated. As the names imply the former uses a solenoid or coil and the latter a motor to operate the valve. These are made in many types and careful consideration of the nature of the fluid handled and its pressure is necessary for proper selection.

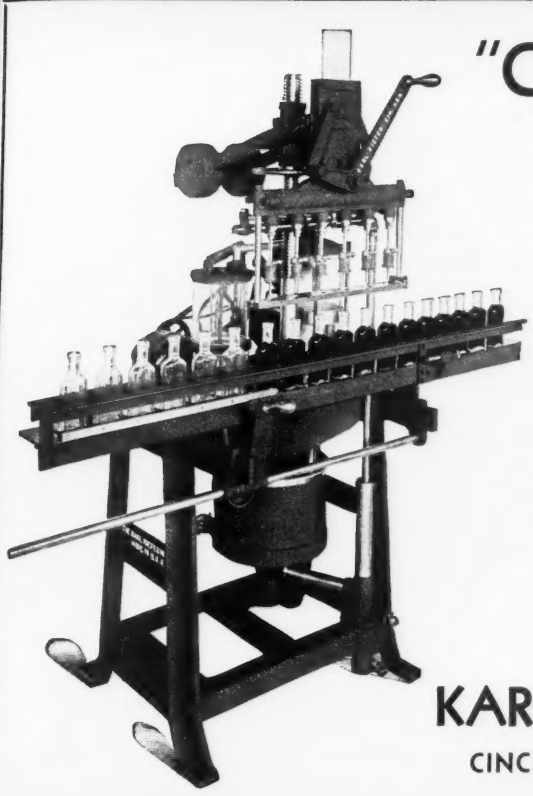
"Often it is required to produce some mechanical movement electrically such as lifting a lever or knocking a package from a conveyor. This can be done by means of a solenoid of the lifting or pushing type. These are made in many sizes and proper application depends upon the pressure required, the distance through which it acts and the rapidity of operation."

Man Available

Some one of you is in need of a good production man and chemist who can not only manage the plant efficiently but also control raw materials and supply and develop new cosmetic products. We have such a man for you. He has a degree in chemical engineering, has had a lot of cosmetic and some drug experience and he is an excellent production man. We know because we pride outselves on the fact that we had a hand in breaking him in on production work. This man is willing to locate anywhere and has no fantastic ideas of what his services are worth. So let's hear from you and we'll put you into touch with our friend.

Colloidal Gum

A new product has recently made its appearance to supplement the growing line of mucilaginous products so widely used by all branches of the trade. This new product is used not only as a stabilizer or emulsifying agent, but as it is said to form a jelly at three per cent. concentration, it is claimed for it that it can sup-



"CINATI" VACUUM FILLER

—for the manufacturer of liquid products, with an output of 80 to 135 gross a day.

Some use it for only one product or for one bottle. Others package several products or have various bottles. In any case, it does the job to perfection.

Six bottles filled at every operation. Six bottles filled with absolute accuracy and uniformity,—unless a bottle is imperfect, then it goes through without a drop of waste of product.

Automatic discharge of bottles onto conveyor, if desired. No trays to fill and empty.

All metal construction. No troublesome rubber tubes.

Furnished complete with vacuum plant and motor.

Our catalog tells you all about it and other Kiefer semi-automatic, full automatic and hand-operated equipment. When you write for it, tell us about your problems.

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KARL KIEFER MACHINE CO.

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Before You Decide on Your
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You should know all about the new STOKES line of Clipless Closure Tube Filling Machines and the new STOKES No. 15 Series of Powder Fillers for filling practically all liquid, semi-liquid, powdered or granular products.

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FJSTOKES MACHINE COMPANY

Pharmaceutical Equipment since 1895

5932 TABOR ROAD, OLNEY P. O., PHILADELPHIA, PA.

We make a complete line of Pharmaceutical Equipment.

plant other mucilaginous materials. Interested parties will be put into touch with the source by dropping us a line.

Etching Ink

A short time ago we described an ink of which it was claimed that it was not only adherent to glass but that it could not be removed with solvents. In testing the stuff later we found that it did not fulfill the claims made for it. It can easily be removed with warm water and a bit of rubbing. Needing a really effective etching ink ourselves we started out to find one and we think we have it. But this time we are going to try it first so as to be sure of claims made for it before passing the word along.

Such an ink must of course have an acid base so that it will eat into the surface of the container. It will serve many uses in this trade in addition to coding for laboratory control purposes. If it weren't for the fact that the law makes it illegal to do so, packages could be coded very quickly so as to make it possible to track down malicious price cutters. You have seen a number of big firms utilizing specially printed labels as a means of honoring larger customers who sell an extraordinary amount of merchandise in a given territory. This procedure is very expensive because it requires not only special label purchases but also special labeling jobs as each order is shipped.

If the ink we are experimenting with really works it will be possible to brand shipments very quickly. All that need be done is to open the bottom of the corrugated sixes or twelves and imprint the bottoms of the containers.

Equipment Announcements

In looking over the new catalog sent to us by the George G. Rodgers Co., New York, we were quite surprised to see that this company carries such an extensive line of equipment. Not only do they make tube and jar fillers but they also make ointment mills, copper and glass tanks and kettles, portable liquid mixers, pony mixers, powder mixers and sifters, powder fillers, liquid fillers, conveyors and pumps.

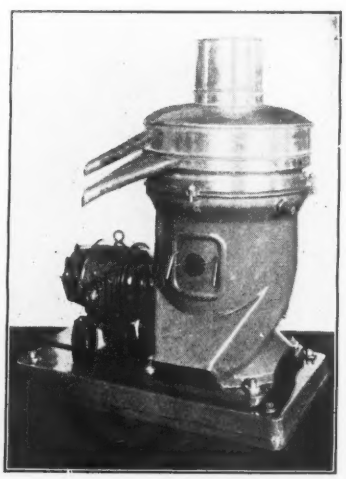
Chemicolloid Laboratories, Inc. New York, has issued an interesting pamphlet in which is described the manifold uses of colloid mills in many different industries from pharmaceuticals and cosmetics to rayon, rubber and plastic flooring. The Charlotte Mill is one of the most versatile and stoutly constructed mills on the market.

P. S. "Pfaudler" Barnes, captain of the Pfaudler sales force, writes to tell us about a new one gallon laboratory auto clave which will interest you research men. This one has a cast iron, glass coated liner two inches thick which will resist 1,000 pounds pressure.

Other New Gadgets

One of the big scale companies is branching out into the field of precision devices and has made innumerable interesting applications of its equipment in our trade. Last month we described a dry filler in which accuracy was assured by means of photo-electric cell control. This company also makes a conveyor check weigher which can be fitted with alarm lights, bells,—and for continuous weighing—a recording gauge. Other equipment includes a photoelectric controlled automatic liquid filler (for filling steel drums); a portable weighing truck or batching scale fitted with a dump hopper so that batches of dry materials can be weighed off progressively and with extreme accuracy; overhead track scales for batching purposes; automatic counters; gauges for moisture determination; tank scales for liquid batching; bagging scale for dry materials. In addition to the foregoing, which indicate only a few of innumerable types available, the company also makes a complete line of platform, counter, pan and laboratory scales and balances; mail, parcel post and express scales.

A large builder of filter presses has just introduced into our trade one of the neatest and most useful little pumps we've seen. This pump is available in capacities from three-fourths gallon to seventy-five gallons per minute which enables it to fit into every size of plant. What makes this pump especially in-



teresting is the fact it can handle very heavy, viscous materials including those containing a relatively high percentage of solids. It will pump mucilage and even clay sludges. It is suited for corrosive and abrasive materials and because it cannot leak and further because the material being pumped never comes into contact with working parts it is also suited for materials like essential oils. All working parts are completely protected so that when necessary to pump an abrasive or corrosive material just the liquid ends need be changed.

A large manufacturer of filters has sent us a bulletin describing his complete line of filters which range from half pint serum filters to huge capacity disc and gravity filters. This company undoubtedly carries the most varied line of filters in the world. It has filters of every size and type suitable for every filtering problem. When you're in the market for a filter we'll put you into touch with this company.

Insecticide and chemical manufacturers will be interested in the line of can filters put out by a company which has just entered our field. This firm has for years built can fillers for many of the largest chemical houses in the world and fillers for every size from pints to fifty gallon drums are included.

Calculating Capacity

To find out how many gallons a tank with flat head will hold:

Square the diameter in inches; multiply by the length in inches and then multiply the product by .0034. The result will be in gallons.

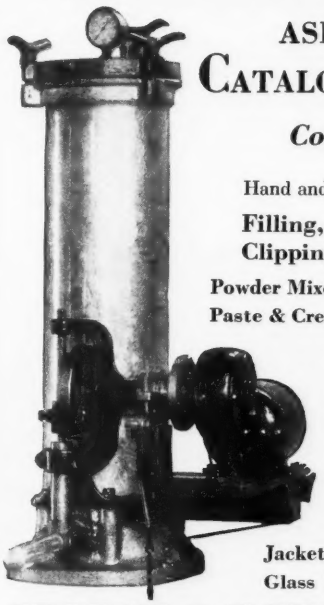
If the tank or kettle has a hemispherical bottom, find the capacity from top to shoulder of bottom and add the capacity of the bottom itself which may be determined by cubing the radius and multiplying by 15.665.

If you want to find the pressure in pounds per square inch of a column of water multiply the heighth of the column in feet by .434.

Ethical Specialty Cosmetics

Why don't cosmetic makers sell cosmetics through doctors? Why aren't they sold as ethical specialties or as ethical-proprietaries? Someone is overlooking a good bet here. A short time ago we received a letter from a young lady connected with one of the large drug houses, who gave her experience with a bad skin condition and asked us if we could recommend a line of really worthwhile cosmetics. She said that she had been treated by skin specialists for her skin condition with satisfactory results, but when she asked them to recommend a good cleansing cream and a good face powder they were unable to recommend any, nor were they able to tell her anything about the claims or character of brands. We're going to look into this.

NEW!! #8A DIRECT MOTOR DRIVEN
TUBE AND JAR FILLER



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REDUCE
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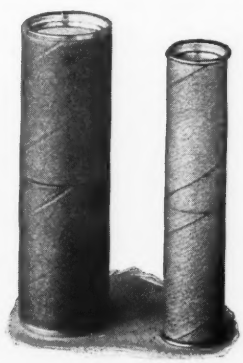

Now is the time to improve your packages and reduce your packaging costs. You can do both with Cleveland Containers. Many manufacturers have made this change and materially reduced their packaging costs --- and at the same time increased their sales through the improved package.

In the Cleveland line you will find a size and type of tubular container for practically every packaging need---and at a reasonable cost. Why not investigate NOW? Write for complete details and let a Cleveland man help you with your packaging problems.

THE CLEVELAND CONTAINER CO.
10627 BEREA ROAD, CLEVELAND, OHIO
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HASKINS
HIGH-SPEED
BOTTLE and JAR CAPPER
For Use with ALL TYPES of Screw-on Caps

In every industry using screw-on caps, HASKINS Method speeds up the work, seals caps more uniformly and eliminates hand operation. Removes hazards of loose caps and fatigue to operator.

Motor unit operates from 110-volt A.C. light socket current. Very low current consumption. Flexible shaft unit suspended from sturdy bench mounting by means of special spring arrangement, permits operation at speeds up to 100 driven caps per minute. Bench mounting adjustable for different heighth bottles and jars.

FLEXIBLE SHAFT TYPE BCF

Chucks used to drive caps easily and quickly changed. Adjustment of tension is simple and positive.

CAPPING COLD CREAM JARS

THESE FEATURES
Insure Positive Savings and Complete Satisfaction

1—Lowest price electric-driven Capper.
2—Positive, Uniform seal.
3—An auxiliary Capper which solves many problems.
4—Caps bottles in trays.
5—Caps bottles or jars on conveyors.
6—Capping speed in excess of best semi-automatics.
7—Handles practically Any shape cap.
8—Handles fragile, plastic caps.
9—Handles metal caps without damage to finish.
10—Eliminates fatigue and resulting hazards.

Write today for prices and complete information.

R. G. HASKINS CO.
4666 W. Fulton Street Chicago, Ill.

The Compounders' Corner

Rouges

First step in preparation of rouges is proper selection of base. Finely pulverized talc is much favored although too much must not be used. Base is therefore composed not of single ingredient but of mixture of ingredients. When proportion of talc is too high, rouge will lack body. Good product is mixture of talc and kaolin which has been previously treated by electro-osmotic process to increase colloidal properties. Use of mixture of zinc oxide and titanium dioxide is claimed to give more opaque product. Excellent mixture contains 45 parts purified talc, 45 parts kaolin and 10 parts titanium dioxide. Color of base is also important, as it determines quantity of pigment to add and also color of finished product. None of inorganic substances used in making base is absolutely white in color, but it is preferred that color should be white as possible. Quantity of pigment required also depends on other physical properties of base. For example when powder is light and fluffy, it requires more pigment to obtain same finished color effect than when base is denser. Hence talc would require much more pigment than zinc oxide or titanium dioxide. This again illustrates importance of compounding ingredients of base in best possible manner to give mixture which requires least proportion of pigment while possessing other desirable qualities. Various coloring matters are used, including pigments and dyestuffs. Latter must be harmless. Mineral pigments, such as bole and burnt sienna, cannot be used alone for coloring rouges but are useful for toning down too brilliant shades obtained with certain dyestuffs. A good rule to follow in selecting dyestuffs is to use only those that have been certified as harmless for foodstuffs.

Hair Removing Preparations

Hair can be removed from skin both by mechanical and chemical means. Latter have been criticized rather strongly within recent years due to precipitous introduction of chemicals into this art without accurate knowledge of their properties. Nevertheless a properly compounded depilatory, containing strontium sulfide, is normally safe and effective. A dehairing powder of this type contains 100 to 150 parts strontium sulfide, 150 parts zinc oxide, 180 to 230 parts wheat starch, 1 part menthol and 19 parts perfume. Menthol and perfume are mixed with zinc oxide; then starch and strontium sulfide are added and mass well mixed, screened and passed through hair sieve. Strontium sulfide and zinc oxide must be free from lumps and absolutely dry.

Mechanical hair removers depend for action on imprisonment of hair in solidified coating applied to skin and removal of hair with coating. Certain painful sensation must be produced, but mechanical depilatories may be preferred by people who are hesitant in using chemical preparations because of their odor or because they fear injury to sensitive skins. Hair-removing wax is made by mixing 90 parts light colored rosin with 10 parts yellow beeswax, these ingredients being melted together. Semi-solidified mass is poured into greased metallic molds and solidifies in pencil form. It is easily softened before use by dipping into warm water. Mass is applied to skin and after hardened, the coating is removed and carries hair with it. Another formula calls for 150 parts rosin, 150 parts sesame oil, 300 parts yellow beeswax, 100 parts larch turpentine and 50 parts lanolin. These ingredients are mixed by melting, poured into molds and used as above.

Astringent Pencils

Potash alum is principal ingredient of astringent pencils. Crystallized alum with 24 molecules of water is used. Pencils must be made so they can be used to last inch without breaking, that they have proper disinfecting and hemostatic action. Alum is first melted or dissolved, and conditions surrounding this process determine strength of pencil. Alum must be melted so that water of crystallization is not driven out. If water is removed, pencils will not be translucent, and after being moistened a few times they will quickly fall to pieces. An antiseptic is sometimes added. This must be soluble in water and resistant to heat to a certain degree, and non-toxic as far as possible. Additions of menthol, eau de cologne, lemon oil and oil of lavender have freshening action on nerves of face. Sometimes coloris added to alum to produce light blue, pink and other delicately colored pencils. Suitable antiseptics are menthol, mercury sublimate (0.1 per cent.), quinosol and formaldehyde. In making pencils, potash alum is dissolved in like quantity of water and latter removed by evaporation. A little, glycerin, menthol and mercury sublimate is added to melt, and mass is poured into suitable molds, previously greased with mineral oil. After mass has congealed, pencils are removed and edges rounded off. In another process, potash alum is melted in its own water of crystallization. Care must be taken to see that none of water is lost by evaporation. One per cent. formaldehyde, 5% of borax, 1% of glycerin and half per cent. of zinc oxide are stirred into molten mass. After it becomes homogeneous, it is poured into molds and processed in usual manner. Evaporation of water of crystallization can be prevented by addition of aforementioned substances to potash alum before it is melted in its water of crystallization. Still another method consists in pulverizing alum very finely and then pouring over odorless mineral oil and processing in usual manner.

New Sulfur Hair Tonics

Presence of sulfur in the blood is necessary for growth of hair. Insufficient natural growth may be stimulated by using preparations containing sulfur in proper form to be absorbed by skin of scalp. Thus animal or human hair is decomposed with alkali and a liquefied product is obtained containing sulfur and amino acids. The sulfur in this condition is claimed to be easily absorbed into skin. Colloidal sulfur preparations are also used. Colloidal sulfur in the proportion of 50 parts is mixed with one part of pure saponin, four parts of resorcinol, one part of calcium chloride and 1000 parts of water. A tonic containing alcohol is made from 20 parts of colloidal sulfur, three parts of pure saponin, 629 parts of water, one part of salicylic acid and 350 parts of alcohol. Triphenylstilbene sulfide and other complex sulfides of the same type may also be used in making these sulfur-containing hair tonics. Triphenylstilbene sulfide is a white, odorless substance in crystallized needle form. It is insoluble in water, difficultly soluble in alcohol and easily soluble in benzene, chloroform and fatty oils. When mixed with water it decomposes to form nascent sulfur.

Soluble Olive Oil for Hair Oils

Oils to be useful for certain cosmetics must be solubilized before compounding. This is usually accomplished by sulfonating. Products are soluble but vary in quality due to fact that sulfonation of fatty acids and glycerides in oils does not always give same end result. Hence sulfonated oils are obtained and sold with different degrees of sulfonation, consequently with different degrees of solubility. Hair oils and soapless shampoos, made with these products, will vary in quality and in action according to nature of oil used. This refers as much to sulfonated olive oil as to sulfonated castor oil. Former is much used for these products, inasmuch as castor oil is often too thick and hair oil too greasy. Another trouble with sol-

ROSE FLOWER A

ROSE FLOWER A embodies all the delightful freshness and fragrance of the Red Rose. Of a type which is suitable in products for both feminine and masculine use. It has been properly fortified and is remarkably lasting. A sample will convince you of the merits of Rose Flower A.

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ODOR INSURANCE

We have devoted years of research to the development of a line of fixatives which we believe are the finest and suggest that you insure the lasting quality of the odor-complex in your finished preparations by properly fortifying it with one of the following:

FIXATIVE OTTO C. P.
ROSE ALDEHYDE F.
AMBER SYNTHETIC 15A
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OPOPONAX CONCRETE F. M.

COMPAGNIE PARENTO, Inc.

EXECUTIVE OFFICES AND LABORATORIES
CROTON-ON-HUDSON, N. Y.

NEW YORK
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TORONTO, ONT.
73 ADELAIDE ST., W.

ubilized or sulfonated olive oil is tendency for separation of stearin in solid mass from oil, particularly when subjected to low temperatures. Thus hair oil, made from such a product, may become solid in cold bathroom during winter. An improved olive oil has been introduced, which is claimed to stay liquid at all temperatures even as low as 40° F. It gives excellent hair oils and also soapless shampoos.

Cocoa Butter for Rouges

Cocoa butter is very useful for cosmetics, particularly lipsticks, cream rouges and tissue creams. Its outstanding disadvantage has been its odor which is disagreeable to many people. It is claimed that a perfectly odorless cocoa butter is now available for use in making these and other cosmetic products. The odorless product lends itself much better to perfuming ordinary cocoa butter, for it is then unnecessary to add strong perfumes to hide odor of cocoa butter and finer and much more delicate odor effects can be obtained.

Triethanolamine in Cleansing Cream

Excellent cleansing cream is obtained with triethanolamine in proportion of 4 parts to 12 parts stearic acid, 40 parts paraffin oil, 4 parts glycerin and 40 parts water. Stearic acid is first melted and paraffin oil is mixed in. Water, glycerin and triethanolamine are mixed together and incorporated with paraffin oil and stearic acid. Before triethanolamine mixture is added, it is heated to 90° C. Mass is added to stearic acid and paraffin mixture in thin stream while latter is vigorously stirred. Very smooth and homogeneous cream is obtained. Another formula calls for 15 parts stearic acid, 0.75 part triethanolamine, 8 parts glycerin, 0.75 parts menthol and 75 parts water. Both preparations are perfumed with composition containing 300 parts hand-pressed lime oil, 300 parts lemon oil, 150 parts French verbena oil, 200 parts menthol and 50 parts benzoin resinoid. About 0.5 to 1% of perfume composition is used in perfuming cleansing cream.

Salve Bases

Salve bases used in making both cosmetics and pharmaceuticals are composed of technically pure lecithin and chemically pure cholesterin, and are prepared by running the oils and fats, which contain these substances, in thin stream into boiling alcohol. Alcoholic solution is evaporated and lecithin and cholesterin in residue are separated by means of acetone. Product that remains after evaporation of alcohol can be used as salve base. It is lecithin oil. Likewise, product remaining from evaporation of acetone from acetone solution freed from lecithin content can be used for same purpose. It is cholesterin oil. Thus for example 5 parts yellow petrolatum are intimately mixed with half part lecithin oil and then 100 to 150% water added as required. Tough, stable salve is obtained which can be used for pharmaceuticals. In another example 5 parts lanolin which absorbs 11.2 parts water in original condition, are intimately triturated with mixture of 5 parts petrolatum and half part lecithin oil. This mixture is mixed with 25 to 35 parts water as required. White salve is obtained which resembles cold cream and is very stable. In another example 20 parts petrolatum are triturated with 2 parts cholesterin oil, which contains 0.66 gram of cholesterin besides 1.34 grams of oil. Salve obtained is combined with 81 cc. of water and gives product of great homogeneity.

Permanent Wave Preparation

Seven parts keratin are dissolved in mixture of 50 parts alcohol and 50 parts aqueous ammonia. Use of aqueous ammonia in place of alcoholic solution of ammonia gives product that lasts much longer. Action of keratin is claimed to harden hair while it is in swollen state and to make it particularly resistant, so that permanent wave is more lasting.

Hair Restorers

Both bismuth citrate and bismuth acetate find successful use in hair restorers. Fifty parts bismuth citrate are dissolved in 250 parts distilled water, 700 parts alcohol and sufficient quantity of ammonia. This is first solution. Second solution contains 100 parts sodium thiosulfate dissolved in 1,000 parts distilled water. In another formula, first solution contains 50 parts bismuth citrate dissolved in 33 parts alcohol, 200 parts rose water and sufficient ammonia water. Second solution contains 120 parts sodium thiosulfate and 400 parts distilled water. Bismuth acetate is used in proportion of 3 parts dissolved in 690 parts rose water and 100 parts glycerin to which are added 4 parts milk of sulfur.

Face Lotions

Simple face lotion is made by dissolving 2 to 10 parts camphor in 300 parts 96% alcohol, then adding 80 parts glycerin and 4 parts eau de cologne essential oils. Entire mass is mixed with 606 to 614 parts rose water. It is essential that mixture be made in small proportions to obtain homogeneous solution. Face lotions are also made with acid reaction. For example 20 parts 99% acetic acid, 10 parts glycerin, 400 parts 96% alcohol, 20 parts perfume and 550 parts distilled water are mixed together. Another composition contains 60 to 65% of 96% alcohol, 1% water, a few per cent. glycerin and perfume, and distilled water to make 100%. Best procedure for compounding this lotion is to dissolve borax in little water, and to dissolve glycerin and perfume in alcohol. Then two solutions are mixed together. Rest of water is added and solution filtered after being allowed to stand for 2 to 3 days so as to homogenize.

Interesting new development in compounding face lotions is use of triethanolamine. Usefulness of this compound lies in fact that it penetrates quickly to epidermis of skin without having deep action with result that compositions, which contain it, leave skin smooth and soft. Furthermore, triethanolamine forms compounds with fatty acids contained in perspiration. Such compounds possess important property of being easily emulsified with water and thus being easily washed from skin. Suitable perfumes for face lotions, which contain triethanolamine, include opaponax preparations, also violet root oil or resinoids or cuminaldehyde, or mixture of cuminaldehyde and laurinaldehyde.

Example of such face lotion is 0.5 part triethanolamine, 4 parts 28° Be. glycerin, 33 parts 95% alcohol, 0.5 to 1 part perfume and 62 parts distilled water.

Resorcinol acetate is useful for face lotions, as this compound possesses therapeutic properties. It is used in proportion of 1 to 2 parts, dissolved in 60 parts 95% alcohol, 1 to 2 parts perfume and 37 parts distilled water. Solution is obtained without any difficulty.

Massaging Oils

Vegetable oils, such as peanut oil, olive oil, walnut oil, are advantageously used in admixture with 10 to 50% castor oil and mineral oil to make preparation viscous. One to two per cent. perfume is added. Good product is obtained from 60 parts benzoinated olive oil, 35 parts paraffin oil, 2 parts lavender or pineneedle oil and half part cholesterin. Good grades of massage oils do not generally contain hydrocarbons such as paraffin or mineral oil since mineral oils make skin oily only superficially, not penetrating it. Essential oils do not penetrate skin. Very good preparation contains 6 parts (in summer 10 parts) anhydrous wool fat, in 94 (or 90 parts) olive oil or of mixture of 2 parts olive and one part walnut oil. Five parts mixture 5 parts laurel oil, 3 parts oil of silver fir, 3 parts lavender and 4 parts rosemary are used to perfume preparation.

Blue Colored Tooth Pastes

It is sometimes desirable to color tooth paste distinctively. A blue color is selected. To obtain such color add a little logwood or a non-poisonous blue coloring matter (coal tar dye of the type used for coloring sugar and confections). These include methyl violet, litmus, indigo carmine and indigotine. These dyes are fast to chemicals, which is important in that the tooth paste may contain a variety of chemical products able to combine with acids or bases or both and the dyestuff must be resistant to such chemicals, otherwise the color will be changed and injurious products formed. The dyestuffs are also easily soluble in water.

News

Associations

Record Drug Trade Dinner

Over 850 attended the eighth annual New York Drug, Chemical and Allied Trades Dinner held at the Hotel Waldorf-Astoria, March 16, thus setting a new record in attendance for this annual function. The dinner was held under the auspices of the Drug and Chemical section

Frank J. McDonough Sets a Record

of the New York Board of Trade, of which Francis J. McDonough, N. Y. Quinine & Chemical Works, is chairman.

Charles L. Huisking, president, Charles L. Huisking & Co., acted as toastmaster and introduced the speakers of the evening who included Henry P. Rainey, Speaker of the House of Representatives; Dr. Hendrick Willem Van Loon, author of "The Story of Mankind" and

Charles L. Huisking Toastmaster

"The Story of Geography;" and Milt Gross, well-known cartoonist and humorist. Before introducing the toastmaster, the chairman of the section, Francis J. McDonough, made his annual report. Telegrams were also read from prominent persons and allied organizations from out of town who were unable to be present or be represented by delegates. However, most of the important allied organizations were represented in person and some of the representatives were called upon to bring the greetings from their groups.

The reception before the dinner began at 6.30 and proved to be the same splendid opportunity to get together as it had in the past. The reception committee functioned under the direction of Victor E. Williams, Monsanto Chemical Works, as chairman.

F. W. D. A. Meets

Federal Wholesale Druggists' Association held its annual mid-winter meeting at the Waldorf-Astoria, New York, March 7 and 8. A departure from the usual procedure was an open session with manufacturers on the first day of the session, at which time problems common to both were discussed. Percy C. Magnus, of Magnus, Mabee & Reynard, Inc., New York, presided at the joint conference after the meeting had been officially opened by O. J. Cloughly, St. Louis, president of the association.

Among the speakers were Ray Whidden, Bauer & Black, Chicago; M. M. Sterling, E. Fougera & Co., New York; Jack Norton, Lambert Co., St. Louis; O. J. Cloughly, St. Louis Wholesale Drug Co.; R. E. Lee Williamson, secretary of the association; E. V. Frankel, Frederick Stearns & Co., Detroit; Samuel L. Antonow, American Druggists Syndicate; S. B. Penick, S. B. Penick & Co.; W. Z. Krupp, Philadelphia Wholesale Drug Co.; Charles L. Huisking, Charles L. Huisking & Co., New York; Turner Currens, Norwich Pharmacal Co.; and J. J. Dreyer, New Jersey Wholesale Drug Co., Newark, N. J.

It was stated that because of the nature of their organizations, the co-operative wholesale drug companies afford manufacturers an assured means of controlling distribution. The fundamental purpose of the co-operative wholesale drug house, it was explained, is to enable individual retail druggists to procure goods at a cost which will place them in a more closely competitive position with relation to chain stores. Association leaders were emphatic in their declaration that manufacturers are not warranted in attempting to require co-operative wholesalers to depart from this purpose.

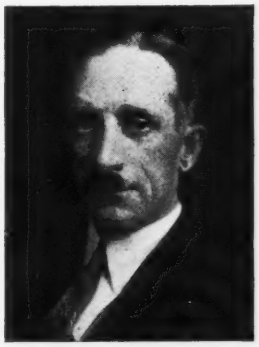
At one of its later sessions the association voted to hold its annual meeting in Chicago in the week of September 25. The date is a week later than that of the meeting of the National Association of Retail Druggists.

Mich. Assn. Appoints

The Michigan Toiletries & Extract Association has appointed the following membership committee: chairman P. A. Porier, Fairystone Labs.; Roy Clark, Hazel-Atlas Glass Co.; E. P. O'Rourke, Owens-Illinois Glass Co.

Cecil Smith—Pres. A. M. T. A.

Cecil Smith, president, Yardley & Co., New York, has been appointed president of the Associated Manufacturers of Toilet



Articles to fill the unexpired term of H. Henry Bertram. At the annual convention of the A.M.T.A. to be held in New York, April 25 to 27, an election of officers will be held at which time a permanent president will be elected.

A. M. T. A. Convention

Plans for the thirty-eighth annual convention of the Associated Manufacturers of Toilet Articles are rapidly being formulated. The convention is to be held at the Waldorf Astoria Hotel, New York, on the days of April 25, 26 and 27. The business sessions are expected to be particularly interesting this year.

The Entertainment Committee, under the chairmanship of Roy Root, has its plans completed. On the evening of Tuesday, April 25, a theatre party is planned, followed by an after-theatre supper dance. The show will be a popular musical production. After the theatre, members and guests will return to the Waldorf Astoria Hotel to attend the supper dance which will be held on the roof of the hotel.

The annual banquet will take place on the evening of Thursday, April 27. This will also be held on the roof of the hotel which provides a particularly interesting place for a real intimate party. The banquet will be followed by dancing in the grand ballroom of the hotel.

Cecil Smith, the newly elected president of the association is working very actively on the plans for the convention and is looking forward to an excellent attendance despite the depression. In fact it is anticipated that the plans for business sessions of more than usual interest will make the attendance of active members larger than usual.

Fourman Joins Parento

Dr. Victor G. Fourman, formerly of Columbia University, has become associated with Compagnie Parento, Inc., Croton-on-Hudson, N. Y., as chief chemist.

Penick Heads Drug Club

Drug & Chemical Club, New York, has elected the following officers: president, S. B. Penick, S. B. Penick & Co.; vice-president, C. C. Gardner; secretary, William P. Brinckerhoff, W. P. Brinckerhoff, Inc.; treasurer, A. A. Wasserscheidt, Mallinckrodt Chemical Works. The new governors are:—John A. Griffin, E. H. Bobst, C. C. Gardner, L. E. Thayer, S. B. Penick, J. A. Huisking and E. V. Killeen.

S. B. Penick

Drug Salesmen Dance

The Drug Salesmen's Association of New York will have its ninth annual vaudeville and dance in the evening of April 8. The affair will be in the Hotel Edison, in West Forty-seventh street, and will be informal. The subscription is $1.50.

The association is composed of sales representatives of manufacturers and jobbers of drug and toilet merchandise in the metropolitan district. Its officers are:—President, Paul H. Krieger; vice-presidents, William Rosenthal and Michael Neufeld; recording secretary, Charles Vos, 875 Hunts Point avenue; financial secretary, M. Kravitz; treasurer, O. T. Sghia, sergeant-at-arms, Charles Wasserspring.

Protective Assn. Formed

National Purchasers Protective Association has been formed with offices at 51 Chambers st., New York, with the announced purpose of publishing and distributing warnings and information designed to put the public on guard against counterfeit products.

To secure the efficacy of its major purpose, the association contemplates the enrollment of selected retail stores which will be bonded in an agreement not to handle any other than genuine trade-marked or trade-named products in their respective lines. The fact that these stores are so bonded and have so agreed will be made known to the public and buyers will be advised to make their purchases in the bonded stores as an assurance of safety. The cooperation of local newspapers will be sought in the development of the protective idea.

It is the plan of the National Purchasers' Protective Association to publish a magazine for the dissemination of information and warnings in keeping with its purposes. Each bonded dealer will be asked to furnish a mailing list of persons whom he wishes to receive the magazine. The dealer is to pay the cost of mailing these magazines. Each copy in the dealer's quota will contain a page advertisement of his business. National advertising will be solicited.

The association is seeking the support of manufacturers of nationally known trade-marked and trade-named products. It offers service memberships to such manufacturers, the membership fee being $100. Manufacturers who are service members will be offered the investigatory service of the association at cost, and will be given the opportunity to make use of the organization's other facilities in combating counterfeiting of their products.

Companies

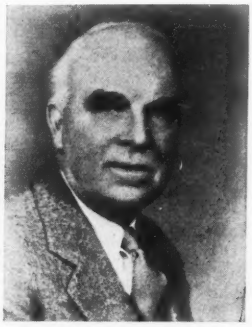
Clough Heads Abbott

S. DeWitt Clough, formerly vice-president, has been elected president, Abbott Laboratories, Inc., North Chicago, succeeding the late Dr. Alfred S. Burdick. Other officers elected were chairman of the board, Edward H. Ravenscroft; executive vice-president and assistant general manager, Rolly M. Cain; vice-president and treasurer, James F. Stiles, Jr.; vice-president in charge of research, Ernest H. Volwiler; secretary and general counsel, Alfred W. Bays. The other members of the board of directors are Edmund L. Drach, Jay Dunne, Dr. George W. Raiziss, Fred W. Scheigert, and Ferdinand H. Young.

S. DeWitt Clough

S. DeWitt Clough, the new president, was born in Chicago, June 30, 1879, the son of Walter and Salena (Wells) Clough. His early business activity was in the publishing field, and just prior to his becoming associated with the Abbott organization he was Western manager for the *American Printer*, *Newspaperdom*, and the *Business World*.

He began publicity work with the Abbott company in 1903. He was advertising manager for the company for many years. In 1923, he became a director and was elected secretary of the company. Later he was elected a vice-president. He has been active in the affairs of the pharmaceutical manufacturers' national associations and in advertising organizations, having been president of the Chicago Advertising Association from 1912 to 1914. He has contributed much to the business programs of the pharmaceutical manufacturers' conventions.



E. H. Ravenscroft

Rolly M. Cain

Abbott Laboratories reported earnings for 1932, after all charges, of $298,383.52 net, which is equal to $2.05 per share on the 145,000 shares of common stock outstanding. This compares with $408,461.00 net in 1931, or $2.82 per share on the same number of shares. The ratio of the current assets to the current liabilities are now approximately 5½ to 1 as compared with 4½ to 1 in 1931.

The regular quarterly dividend of fifty cents a share has been declared, payable April first, to stockholders of record March seventeenth.

Benkert Turns Dealer

W. Benkert & Co., Inc., New York, has absorbed Crude Drug Importers, Inc., and become a dealer in crude drugs handling a full line of goods and selling to the retail trade. Officers of the company are president, R. J. Prentiss; vice-president, Harold King; secretary and treasurer, J. Miller.

ALCOHOL
AND
INDUSTRIAL CHEMICALS

THROUGH the sales organization of A. K. Hamilton, The Pennsylvania Sugar Company and the Franco-American Chemical Works are able to offer you a two-fold service on your purchases of industrial alcohol and allied chemicals.

Industrial Alcohol

Pure and denatured (all formulae)

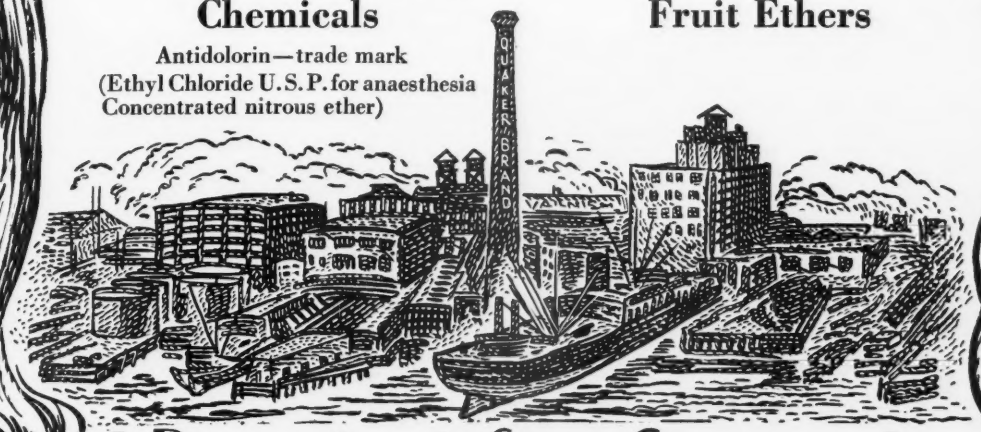
Industrial Chemicals

Acetates (*Amyl, butyl, ethyl*)
Butyrates
Propionates
Leather dopes
Plasticisers
Special Esters
Fusel Oil (*Crude and Refined*)
Gum Solutions
Cotton Solutions
Ethyl Chloride (*Refrigeration and Ethylation*)

Pharmaceutical Chemicals

Antidolorin—trade mark
(Ethyl Chloride U. S. P. for anaesthesia
Concentrated nitrous ether)

Artificial Fruit Ethers



Pennsylvania Sugar Company
and
Franco-American Chemical Works

SALES OFFICE

95 WALL STREET — **A.K.Hamilton** — NEW YORK, N.Y.

Sales representatives and warehouse stocks in principal cities

Distillery—Philadelphia, Pa. **Chemical Plant—Carlstadt, N. J.**

Overton Takes Baxter Cosmetics

Frank H. Overton Laboratories, Glendale, Calif., has been organized to take over the cosmetic branch of the business conducted by Don Baxter, Inc. The company manufactures the "Jane Sterling" line which was originated some months ago by Dr. Baxter of Don Baxter, Inc., but due to his illness, has not, to any great extent, been introduced as yet. It includes a cleansing cream, tissue cream, hand cream, massage cream, astringent, skin tonic, hand lotion, sunburn cream, four shades of creme rouge, five shades of face powder and three perfumes. Lipstick and dry rouge are to be added later.

Due partly to his illness, and partly to the fact that the cosmetic part of his business conflicted somewhat with the pharmaceutical division, Dr. Baxter turned over the cosmetics at the first of the year to Frank H. Overton, who has been his chief chemist for the past several years. The business will be conducted as before, at the same address, the only change being one of ownership and responsibility.

With the one exception of the "Jane Sterling" line, business will be confined exclusively to private label manufacturing, special attention being given to face powder.

Gordon Advanced by National

L. H. C. Huntoon, general manager, National Collapsible Tube Co., Providence, R. I., has announced the appointment of H. R. M. Gordon, as assistant sales manager of the company. "Duff"

H. R. M. Gordon

Gordon, as he is familiarly known, is well known in this industry through his former association with the trade press and through his unusual type of trade advertising which appears under the copy right name, "Pack-Urges."

In January 1932, he opened offices as a manufacturers' representative specializing in packages for the cosmetic and drug industry. The National Collapsible Tube Co. was his first account and he was its first New York representative and this promotion is testimony to the sales record he has made in the New York district. He will continue to maintain his headquarters at 331 Madison ave., New York, and continue to handle sales in the New York territory.

M. M. & R. Appoints Sauve

Magnus, Mabee & Reynard, Inc., New York, has appointed J. H. Sauve, as sales representative for eastern Canada. He will cover the Maritime Provinces, Provinces of Quebec, Ontario, etc. He is well acquainted with the consuming trades in these localities and will make his headquarters at No. 3518 Lacombe Street, Montreal, Quebec.

Wildroot in Canada

Wildroot Co., Inc., Buffalo, has established a Canadian branch at Fort Erie North, Ontario. The Canadian business will be operated by Wildroot, Ltd., a newly formed subsidiary, with the following officers: president, H. J. Lehman; vice-president, A. F. Osborn; secretary, treasurer and general manager, H. R. Shehan.

Squibb Infringes Mallinckrodt Patent

On October 1st the District Court of the United States for the Western Division of the Western District of Missouri handed down a decision in the case of Mallinckrodt Chemical Works versus E. R. Squibb & Sons, Inc.

This was a suit in which the Mallinckrodt Chemical Works alleged that the defendant, E. R. Squibb & Sons, had infringed U. S. Patent No. 1,370,865, which is a patent for the mechanical closure of ether cans without the use of solder.

The Court held this patent valid and infringed and held the plaintiff (Mallinckrodt Chemical Works) entitled to an injunction against future infringement and a decree for an accounting of profits.

Lady Esther Expands

Lady Esther Co., Chicago, has leased additional space in the Tinker Toy Building, Evanston, Ill., which will multiply its present space about five times. A. H. Ross & Co. is furnishing and laying out all equipment for the new plant.

Rit as Hair Dye

Rit Products Corp., Chicago, plans to launch an advertising campaign about March 1 which will feature the use of "Rit" as a hair dye.

Fougera Takes Account

E. Fougera & Co., New York, has been appointed selling agent for Herbal Flaxolyn Co., Newburgh, N. Y.

Thinc in Canada

Thinc Products, Inc., has established a Canadian subsidiary at Toronto to manufacture Thinc Hand Creme in Canada.

Rosenthal to Japan

H. H. Rosenthal, president of H. H. Rosenthal & Co., New York, chemical and drug brokers, sailed from Seattle for Japan on March 4 to visit his representatives in the Far East. Mr. Rosenthal has,

H. H. Rosenthal

for many years, carried on an extensive business of import and export of Japanese drugs and raw materials and he should return with first hand knowledge regarding conditions surrounding Japanese raw materials. This should prove valuable in view of the present war conditions existing in Japan. Mr. Rosenthal expects to be gone about three months.

Upjohn Promotes Norton

The Upjohn Co., Kalamazoo, Mich., announces the appointment of Dr. John F. Norton to fill the position made vacant by the recent death of Mr. Wilbur B. Payne, head of the department of bacteriology. Dr. Norton graduated from the Massachusetts Institute of Technology in 1906, and took his Ph. D. at the University of Chicago in 1911. Following this he returned to Massachusetts, where he taught in the Institute of Technology until 1917. At that time he was recalled to Chicago, where he was at first assistant professor of bacteriology, and later associate professor. Since 1928 he has been director of laboratories for the City of Detroit.

Wilbur B. Payne had been associated with The Upjohn Co. since 1913, with the exception of the years 1918 and 1919, when he was in the Naval Service. He was a graduate of the University of Michigan. His death from pneumonia on December 31st, 1932 was a serious loss to the Company and to his associates and friends.

Barbasol Sues King

Barbasol Co., Indianapolis, has started a trade-mark infringement action in the Federal Court, Newark, N. J., against King Blades Distributing Corp., Trenton.

Tre-Jur Takes New Account

Tre-Jur, Inc., New York, will represent Les Parfumeries de Gabilla of Paris, in this country.

The turbulent elements may agitate the sands of the desert, but the Pyramids stand unmoved through the ages . . . Business upheavals may scatter to the four winds the quality standards of many business organizations, but Fritzsche Brothers still adhere to the highest quality standards for which they have always been known.

Fine Perfumes for

TOILET SOAPS **LIQUID SOAPS**
HAND SOAPS **SOAP POWDERS**

IF you desire, our Research Department will submit recommendations for the perfection of your soaps, accompanied by suggested samples from our extensive line of perfumes.

FRITZSCHE BROTHERS INC.

Proprietors of
PARFUMERIES DE SEILLANS
Seillans, France

118 W. Ohio Street
Chicago

78-84 BEEKMAN ST.,
NEW YORK, N. Y.

Sole Agents in U. S. and Canada for
SCHIMMEL & COMPANY
Miltitz (near Leipzig) Germany

FRITZSCHE BROS. of Canada, Ltd.
77-79 Jarvis Street, Toronto

S. M. A. Appoints Hardy

S. M. A. Corp., Cincinnati, has appointed A. A. Hardy, director of field representatives.

National Cod Liver Oil

National Laboratories, Ltd., Halifax, N. S., has been established to manufacture cod liver oil.

Harper Appoints Sullivan

Martha Matilda Harper, Inc., Rochester, N. Y., has appointed Jack Sullivan sales manager, succeeding J. A. Kelly.

At Century of Progress

Abbott Laboratories, Bristol-Myers Co., Dow Chemical Co., Iodent Chemical Co., Kendall Co., Mallinckrodt Chemical Co., Merck & Co., E. R. Squibb & Sons, Victor Chemical Works, and Yardley & Co. are among the exhibitors at the Century of Progress Exposition.

New Schwabacher Products

S. Schwabacher & Co., New York, white oils, has expanded its line to include a high grade refrigerator oil and naphthenic acid sludge, the latter used for emulsions in the textile industry.

Sharp & Dohme Reelects

Stockholders of Sharp & Dohme, Inc., at their annual meeting in Baltimore March 1 re-elected all retiring directors and subsequently the directors at their annual meeting re-elected the officers of the company. All acts of the directors and officers during the past year were approved by the stockholders by formal resolution. A. Homer Smith, president, in his report indicated that the company is in a strong cash position and showed that the $350,000 mortgage on the Philadelphia laboratories of the company had been paid off in advance of maturity.

Fritzsche Bros. Appoints

Fritzsche Bros., Inc., New York, has appointed the following representatives: George A. Blaikie, Los Angeles, for California, and Stanley Crough for the Rocky Mountain States.

Shipkoff & Co. Splits in Two

Shipkoff & Co., Ltd., has been dissolved by mutual consent and two companies formed: Theodore K. Shipkoff, Ltd., Sofia, and P. K. Shipkoff & Co., Kazanlik.

Sonneborn Appoints Cohen

Harry Cohen has been appointed Georgia, Alabama and Florida representative for L. Sonneborn Sons, Inc., white oil department with headquarters in Atlanta.

Mullin's Trip

B. Mullin, sales manager, Nusheen, Inc., New York, has just completed an extensive twelve-week trip giving demonstrations to practically all franchise "Nusheen" distributors.

Thorn—Pres. of Babcock

Harold W. Thorn, formerly secretary, treasurer, and general manager, A. P. Babcock Co., Rutherford, N. J., has been elected president of the company succeeding H. Henry Bertram.

Firmenich Visits Ungerer

Andre Firmenich, M. Naef & Co., Geneva, Switzerland, manufacturer of synthetic aromatic chemicals and perfume specialties, arrived in this country February 28 on the S. S. "Aquitania." He is making his headquarters with Ungerer & Co., New York, American representatives of Naef and will be here about six weeks or two months. His last visit to the United States was in 1931. He will again make a tour of the East and Middle West with the Ungerer representatives in those sections, renewing old acquaintances in the cosmetic, soap and perfume fields and exhibiting the many new Naef developments since his last visit.

Boaz Joins Corday

A. E. Boaz, formerly with D'Orsay Perfumeries Corp., has become associated with Parfums Corday, Inc., New York, as field sales supervisor.

J. K. Lilly Honored

J. K. Lilly, president of Eli Lilly & Co., seated in his home beside the beautiful grandfather's clock recently presented to him by all Lilly employees at home and abroad. The hand-made volume which Mr. Lilly is holding contains signatures traced in gold of the more than 1700 Lilly employees.

Toilet Preparations Stand or Fall on the Quality of their **Basic Ingredients**

Neither secret formula nor manufacturing skill alone insure successful selling quality. The grade of basic materials you use, in the long run, makes or breaks your product. Over 40 years of highly successful experience with manufacturers and packers attests our ability to contribute the grade and variety of basic ingredient that will creditably take care of your product's quality.

Almond Meal	FACTOLAC	Talcum
Balsam Tolu	Gum Arabic	Irish Moss
Benzoin Gum	Gum Tragacanth	Lavender Flowers
Chalk (Precipitated)	Henna	Olibanum
Chinese Shavings	Henasoap Shampoo	Orris Root
Cuttle Fish Bone	Indian Gum (Karaya)	Powdered White Soap

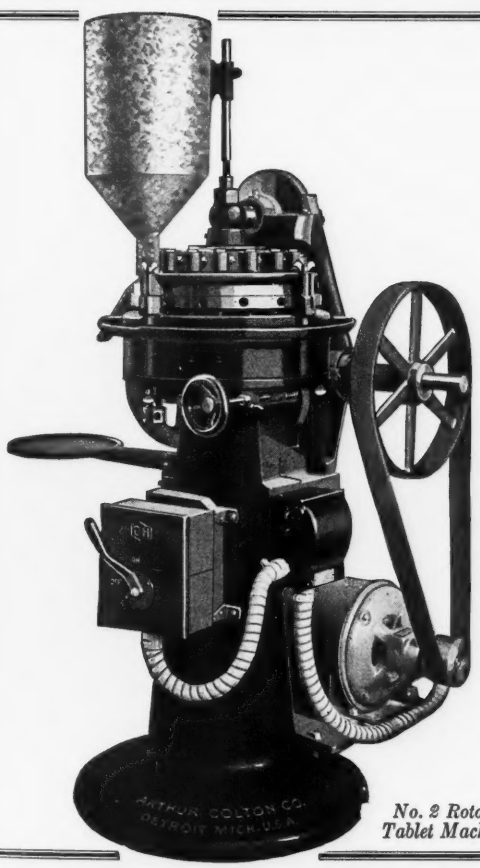
QUINCE SEED OF THE HIGHEST OBTAINABLE QUALITY

HOPKIN'S NEUTRAL WHITE SOAP—Powdered, Granulated. Contains NO Soap Bark, Free Alkali, Free Acid, heavy metals. Totally free of rosin, sugar and foreign matter.

FREE at your request: The Hopkins "BASIC INGREDIENTS" booklet. Useful, informative, valuable.

J. L. HOPKINS & CO.

Importers. Millers. Manufacturers
220 Broadway (at Fulton St.) N.Y.



No. 2 Rotary Tablet Machine

New and Improved!

We have no yearly models—but improvements and refinements are being constantly added to Colton machines.

There are over five hundred Colton Rotaries in use.

Superior design, sturdy construction and ease in operation have made this possible.

The No. 2 Rotary Tablet Machine has such desirable features as *positive pressure*, eliminating varying thicknesses of tablets; *hardened steel gear drive*, eliminating frequent replacement of worms used on other makes, and *sliding upper punch holders*, to hold the punches rigidly, enabling the manufacture of special shaped tablets most satisfactorily.

Write for Catalogs.

ARTHUR COLTON COMPANY

2620 East Jefferson Ave.
Detroit, Michigan

Kamm and Volwiler Honored

Oliver Kamm of Parke, Davis & Co., Detroit, and E. H. Volwiler of Abbot Laboratories, North Chicago, were among the 250 scientists who are regarded by their colleagues as among the leading workers in their fields in the United States, according to a list published in "Science," official organ of the American Association for the Advancement of Science. Their names appeared among the 44 selected in the "Chemists" group.

Dorothy Cocks Joins Lehn & Fink

Dorothy Cocks, beauty editor, "Ladies' Home Journal," succeeds Louise Westing, resigned, as advertising and merchandising manager of Lehn & Fink Products Co., New York, as of March 20. Miss Cocks will continue in her editorial connection. She has prepared for the new dual role by serving for the past three years as a merchandising consultant in the cosmetic field.

Gladys Ogilvie Returns

Gladys Ogilvie, head of the research department of Ogilvie Sisters has returned to New York after an absence of over a year. She brings with her a wealth of new ideas on scalp health and hair treatment, on which she has been experimenting and which are being worked up in the New York Laboratory.

Mineralava Labs. Formed

Mineralava Laboratories, Inc., has been formed to take over the "Mineralava" trade-mark and will specialize in the preparation of plastic masks and a full line of toilet preparations including shaving cream and tooth paste. General offices have been taken at 20 West 22 st.

Leo Lomboner, former treasurer of the old Mineralava company, is president; Harvey P. Goldstein, former secretary of the old company, is vice-president; and M. L. Cohn, former sole owner of Society La France, cosmetics, is secretary-treasurer. Radio and newspaper advertising is planned in connection with an aggressive merchandising campaign.

Mysore Tooth Paste

The Annual Report of the Mysore, India, Department of Industries and Commerce reports that the soap factory, the premier industrial concern owned and operated by the Government of Mysore, plans to commence the manufacture of tooth paste in 1933. Production of soap by this factory in 1931-32 reached 240 tons, compared with 200 tons in the previous year, while sales of soap were valued at $165,000, in addition to moderate sales of toilet preparations and boot polishes, according to the Department of Commerce.

Russell Howe Enters Business

Russell Howe, who has been associated with William E. Martin, New York, since October 1, has opened offices in that city to carry on a drug brokerage business of his own. In addition to representing the Societe D'Avances Commerciales, Ltd., of London, he will also handle the business of several other leading foreign shippers of gums and botanicals.

"Farmer's Wife" Campaign

"One-third Of Your Market" is the running caption of a year's magazine campaign to manufacturers and advertising men by "The Farmer's Wife" (Webb Publishing Co., St. Paul) beginning in March and April.

The campaign, which appears in a group of advertising and trade publications, and in "Fortune" Magazine, emphasizes such facts as that the rural housewife represents over 10,000,000 homes; that she buys for one-third of the nation's population; that she comprises so large a part of the market for drugs, foods, and other family and household merchandise, even under present conditions, that she must not be ignored.

The advertisements are being prepared by the Minneapolis office of Erwin, Wasey and Co.

New Products

EVERSWEET

Christy Cosmetics Co., New York, is marketing a new stick deodorant called "Eversweet."

DR. MARSHALL'S

T. Noonan & Sons Co., Boston, has introduced a new hair line consisting of eight items under the name, "Dr. Marshall's Medications."

YOUTHSKIN.

Isis Laboratories, Inc., Portland, Ore., is marketing a new line of cosmetics under the name "Youthskin."

de WANS REMOVER

De Wan Laboratories, Chicago, is selling a new paste depilatory packaged in a jar and called "de Wans Permanent Hair Remover."

FUTURA

Futura Co., East Orange, N. J., is manufacturing a new line of cosmetics under that name.

SOL-U-LAK

Philip Carey Manufacturing Co., Cincinnati, has established a pharmaceutical department to make milk of magnesia from its own magnesia. The new product, will be marketed under the name, "Sol-U-Lak."

LANO PERMANENT WAVE

Lano Co., New York, is offering the hair dressing trade a new permanent waving system, the basis of which is lano solution for permanent waving.

BEECH-NUT BABY FOODS

Beech-Nut Packing Co., Canajoharie, N. Y., is marketing a complete line of baby foods.

DR. LYONS MOUTH WASH

R. L. Watkins Co., New York, has added "Dr. Lyons Astringent Mouth Wash" to its line which already includes "Dr. Lyons Tooth Powder," "Watkins Mulsified Cocoanut Oil Shampoo," "Glostora," and "Liquid Arvon." Alvin G. Brush is now president and H.A.Weissman, vice-president in charge of sales and advertising for the company.

Trade Literature

GOLDSCHMIDT BOOKLETS

Th. Goldschmidt Corp., New York, has issued two new booklets—one on "Emulsifier 157", a base for liquid emulsions, and the other on "Protegin," an odorless absorption base. Both contain formulae and procedure for using these products in cosmetic manufacture. Copies may be obtained upon request.

UNGERER'S BASES

Ungerer & Co., New York, has published a new booklet entitled, "Vidal-Charvet Specialties." This booklet describes all of the types of these basic perfume materials and indicates their potentialities in cosmetic manufacture. Copies may be obtained upon request.

D. & O. CITRUS OILS

Dodge & Olcott Co., New York, has published a new pamphlet on the "Citrus Oils, Lemon, Orange and Lime,—Natural, Eversweet, Concentrated and Terpeneless; and Synthetic Fortifiers." The pamphlet is recommended as a guide in selecting the most advantageous types of oil for various flavoring purposes.

MONSANTO'S REPORT

The annual report of Monsanto Chemical Works was again presented in a very attractive folder illustrated in most interesting fashion.

PENICK PRICE LIST

S. B. Penick & Co., New York, has issued a comprehensive price list and manual covering more than 800 botanical products used in the drug and allied industries. The booklet, which is issued periodically by the company, contains technical information on each item mentioned, the data being summarized for convenience and brevity. Copies of the booklet may be obtained upon request.

Outstanding Ideas *in Modern Box Design!*

THIS *versatile organization* . . . HATCH of Lowell . . . has to its credit a long list of successes as the originators of distinctive and attractive designs for the *Drug and Cosmetic trade.*

Our talented Designers take their work seriously. The ordinary will not do. It must be *unusual* . . . and no effort is spared to make it so. This expert service is yours!

The C. F. **HATCH** Company
Lowell, Massachusetts

Devoted exclusively to the production of Fancy Boxes, this modernly equipped plant is one of the largest and most progressive in the country.

Whether it be

Scrip or Cash

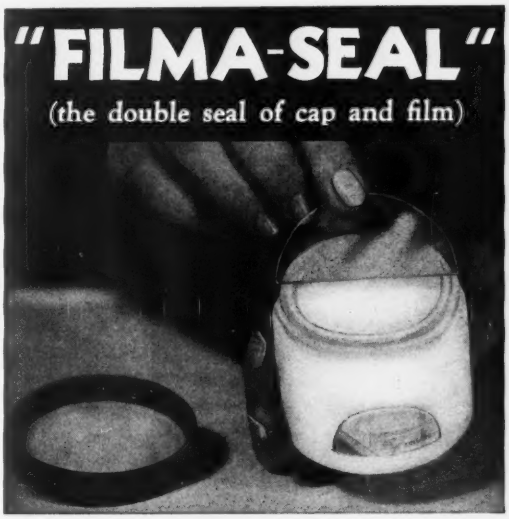
don't WASTE it!

Many manufacturers have saved thousands of dollars by calling in a competent designer to study their package design problem. This study very often resulted in a more effective package more economically produced.

Emil A. Schaedler
Designer

18 EAST 41st STREET • NEW YORK
LExington 2-0873

"FILMA-SEAL"
(the double seal of cap and film)



Is used on many Nationally known products.

PREVENTS
EVAPORATION — LEAKAGE — TAMPERING

Send us a few of your packages to "FILMA-SEAL" and we will prove its advantages to you.

FERDINAND GUTMANN & CO.
Brooklyn, New York

Trade Marks Reg. Pats. Pending

Removals

INDIANA MFG. CO.

Indiana Manufacturing Co., cosmetics, has moved its plant to 361 Baxter ave., Louisville, Ky.

MERITOL CO.

Meritol Co., drugs and cosmetics, has announced the removal of its offices to the plant at Decorah, Ia.

AMERICAN FLUORIDE CORP.

American Fluoride Corp. has taken new quarters at 151 W. 19th Street, New York.

New York Offices

MOON GLOW CORP.

Moon Glow Cosmetic Co., Hollywood, Calif., has opened a New York office at 80 West Houston st., with Louis Herzberg, general manager, in charge.

DORALDINA, INC.

Doraldina, Inc., Hollywood, Calif., has established a New York office at 230 Fifth ave., with H. E. Cronenweth, president, in charge.

Regulatory

Cosmetic Tax Revisions

In a special ruling by the general counsel of the Internal Revenue Bureau, issued March 2, the definition of manufacturer as applied to the excise tax levied on manufacturers of toilet preparations has been revised and partly reversed.

When a company repacks a toilet preparation bought in bulk from a second company, when it furnishes containers to the second company for filling and packing only, and when it furnishes the second company the ingredients for manufacture of a preparation which the first company sells, the second company is the manufacturer, it has been ruled by C. M. Charest, the general counsel of the bureau.

Previously in all three of these instances, the first company had been held to be the manufacturer. His new decision has the effect of levying the new excise tax on the sale of the second company to the first instead of on the sale of the first company to the retailer or consumer.

F. D. A. Active

Federal Food and Drug Administration caused seizure in February of 89 consignments of foods and drugs violating the national pure food and drug law, reports W. G. Campbell, Chief. The Administration also sent to the Solicitor of the Department of Agriculture, with recommendations for prosecution, cases involving 26 stocks of foods and drugs. Notification was received from Federal courts of the termination of seven criminal prosecutions of violators, all of which resulted in fines—ranging from $10 to $800.

Federal seizures for February covered a variety of foods and drugs—misbranded stock remedies; proprietary remedies unjustifiably recommended as having curative value for tonsilitis, diphtheria, scarlet fever, rheumatism, etc.; ether, fluid extract of ergot, ergotol, and tincture of aconite which fell below standards of the U. S. P.

F. T. C. Dismisses Pond's Action

Federal Trade Commission has dismissed a complaint charging the Pond's Extract Co., New York, with unfair methods of competition in the use of testimonials in advertising.

A. M. A. Revises Rules

NUMERALS & LETTERS

Since the use of numerals or alphabetical designations in connection with drug names tends to take the emphasis away from the name and to displace the name, thus leading to confusion, the Council will not recognize the name of a drug in which the numeral or letter is an integral part of the name, except in special cases where the use of a numeral or letter seems desirable because further improvement of the product is anticipated, in which case the Council may grant a special exemption from the rule. Under this rule the use of numerals or letters in connection with the name of a product will not be permitted on labels or in advertising, unless the numeral or letter is clearly separated from and subordinated to the name by type and if feasible by position. This rule shall not apply to price lists and catalogues.

AMPULE LABELING

In the case of solutions marketed in the form of ampules the term "——cc. size" will be accepted as a proper indication of the volume of contents, the significance of that term being understood to be that the ampule contains a sufficient excess of madicament to permit the withdrawal and administration of the dosage indicated by the size denomination. Individual ampules, or unit packages thereof, must bear a statement explaining the significance of the term "size" as it applies in a given instance. For example, if ampules are labeled "2 cc. size," a satisfactory statement will be "Each ampule contains a sufficient amount to permit withdrawal and administration of 2 cc."

LIVER EXTRACT POTENCY

Manufacturers of liver extracts shall be required to limit statements concerning the potency of the representative fraction marketed to the affirmation that a given quantity of extract represents or is equivalent to the antianemic potency of a given quantity of fresh liver.

CHEMICAL NAMES

For all definite chemical substances it is required that the scientific (chemical) names be given prominence on the labels, in circulars, and in advertisements; provided that for those substances for which there are recognized Council or Pharmacopoeial names, such names shall be used and the scientific name need not appear.

A. M. A. Rejects

DROPPED FROM N. & N. R.

The Council voted to omit the following from New and Nonofficial Remedies: Benzyl Benzoate-Abbott and dosage forms, Benzyl Benzoate-Fritzsche, Benzyl Benzoate-H. W. & D. and dosage forms, Benzyl Benzoate-Mallinckrodt, Benzyl Benzoate-Merck, Benzyl Fumarate-Abbott and dosage form, Tablets of Benzyl Succinate-H. W. & D., and Benzyl Succinate-Merck.

ROVIN PRODUCTS

The Council declared Corpus Luteum Solution (Rovin), Kidney Solution (Rovin), Lymphatic Solution (Rovin), Mammary Solution (Rovin), Ovarian Solution (Rovin), Ovarian Residue Solution (Rovin), Thyroid Solution (Rovin), Pituitary Anterior Lobe Solution (Rovin), Suprarenal Gland Solution (Rovin), Suprarenal Cortex Solution (Rovin), Thymus Solution (Rovin), Spleen Solution (Rovin), Spleen Solution 500% (Rovin), Orchic Solution (Rovin), and Prostate Gland Solution (Rovin) unacceptable for New and Nonofficial Remedies because they are products of indefinite composition and of undemonstrated therapeutic value; and declared Pituitary Anterior Lobe Sex Hormone Solution (Rovin), Liver Solution (Rovin), and Orchic Extract (Rovin) unacceptable because they are products of undemonstrated therapeutic value. Manufactured by A. M. Rovin Laboratories, Inc., Detroit.

METAPOLLEN

The Council declared Metapollen to be unacceptable for inclusion in New and Nonofficial Remedies because no satisfactory formula has been furnished by the manufacturer; no tests for identification and purity have been established; claims of special therapeutic usefulness are not warranted by the evidence; the name is objectionable (also true of "Compyrine") as it is not indicative of composition; the composition is unscientific. Manufactured by Metapollen Laboratories, Carbondale, Ill.

Financial

Earnings and Dividends

AFFILIATED PRODUCTS

Affiliated Products, Inc., reports for 1932: Net profit after interest, depreciation, Federal taxes and other charges, $639,227, equal to $1.67 a share on 382,800 no-par capital shares, compared with $1,005,913, or $2.63 a share, in 1931.

Williams Sponsors the "Face that's Fit" . . . . NATIONAL Supplies the Tubes

"Face Fitness. It begins with the five pleasant minutes you spend with Williams Shaving Service. . . In any company the Face that's Fit is a perfect introduction. That's why millions of Face-Fit men insist upon 'Williams' . . ."

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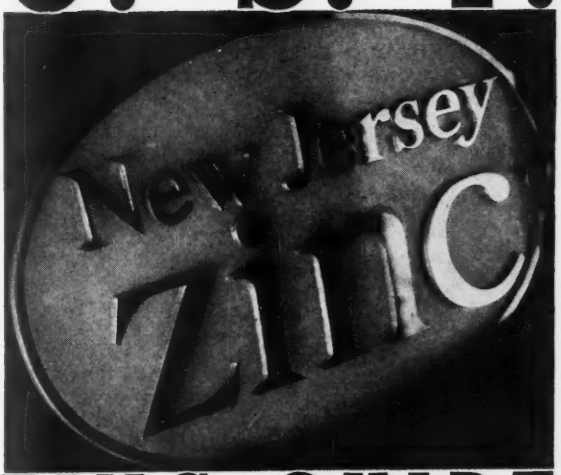

ZINC OXIDE

. . . . . by the pioneer manufacturer of zinc products . . . . . .

THE NEW JERSEY ZINC COMPANY
160 FRONT STREET, NEW YORK

Chicago Cleveland San Francisco

AMER. HOME PRODUCTS

American Home Products Corp. reports for 1932: Net profit after depreciation, taxes, foreign exchange losses and other charges, $2,648,257, equal to $4.26 a share on average number of capital shares outstanding, against $3,374,910, or $5.52 a share in previous year.

The company proposes to reduce the capital of the corporation from $17,832, 923.64 to $672,100 by changing the par value from no par value to a value of $1 a share, and transferring to capital-surplus the amount of such reduction, which latter will be $17,160,823.64.

DRUG, INC.

Drug, Inc., plans to use about $23,662, 580 for writing down the book values of properties and leaseholds, mostly of the Louis K. Liggett Co., and also $2,978,484 for writing off good will. These funds are to be obtained by a reduction in capital from $85,468,229 to $35,014,990, a difference of $50,453,239.

The company's annual report, in addition, shows that the company had a net profit of $13,467,092 for the year ended December 31, 1932, including returns from subsidiaries and after all expenses and reserves. The net was equal to $3.84 a share on the outstanding stock at the end of the year and compared with a net profit of $19,440,456 for 1931, or $5.55 a capital share. The 1932 earnings included $921, 909 in cash dividends from the Boots Pure Drug Company, of England, in which Drug Incorporated holds a 75 per cent interest, which was valued on the balance sheet at $23,799,737. Earnings of the Boots company were not included in the statement of Drug Incorporated owing to the fact that Boots' fiscal year ends March 31. It was estimated, however, that these earnings to December 31, 1933, were $1,841,219 with sterling computed at $3.33.

The following balance sheet as of January 1 has taken into account (a) the proposed reduction of capital stock of Drug Incorporated from $85,468,228.66 to $35,014.990; (b) the creation of capital surplus resulting therefrom of $50,453, 238.66, and (c) adjustment and write-off there-against of book values of properties and assets of certain of the subsidiary companies, and the Owl Drug Company investment and advances, amounting together to $23,662,579.78.

Assets

Current assets—		
Cash	$16,129,745	
Marketable securities	10,973,749	
Notes and other receivables	584,943	
Accounts receivable	8,958,458	
Merchandise inventories	20,837,998	
		$57,484,894
Cash held by sinking fund agent—First leasehold mortgage 5½% sinking fund gold bonds 1952 (Liggett Building, Inc)		191,61
Fixed assets—		
Land and buildings	$16,571,490	
Buildings on leased land	4,548,850	
Machinery, equipment, furniture, fixtures, etc.	19,946,797	
	$41,067,137	
Less reserves for depreciation and amortization	$19,190,432	$21,876,704
Investments—		
Boots Pure Drug Co.	$23,799,737	
Affiliated and associated companys	2,851,151	
Others (including 1,000 shares Drug, Inc., at $72,231, held by subsidiaries)	576,852	
		27,227,740
Advances and deferred items		1,592,103
Trade-marks, goodwill, patents, etc.		42,253,959
		$150,627,017

Liabilities

Current liabilities—		
Notes payable (by subsidiaries)	$1,165,000	
Five-year 5% gold notes due April 1, 1933 (United Drug)	1,000,000	
Accounts payable and accrued expenses	5,167,429	
Accrued interest payable	675,154	
Dividends payable January 3, 1933, by subsidiaries to minority interest	3,317	
Reserve for exchange fluctuation	953,647	
		$8,964,548
Fixed liabilities (United Drug and subsidiaries)		
Real estate mortgages	$1,055,303	
25-year 5% debenture bonds due March 15, 1953 (United Drug)	40,000,000	
25-year first lease-hold mortgage 5½% sinking fund gold bonds due August 1, 1952 (Liggett Building, Inc.), less amount in treasury	3,388,500	
15-year 5% first mortgage sinking fund gold. bonds due January 1, 1946 (United Chocolate Refiners, Inc.)	725,000	
		45,168,803
Reserves—		
Income taxes 1932 (U. S. and foreign)	$1,731,790	
Other taxes, royalties, etc	7,853,414	
		9,585,204
Minority interest in preferred stocks of subsidiary companies		178,580
Capital stock—		
Authorized 5,000,000 shares $10 par; issued 3,501,499		35,014,990
Capital surplus		26,790,658
Earned surplus		24,924,232
		$150,627,017

In his remarks to stockholders, A. H. Diebold, president of the company, referred to the proposed sale of Boots Drug Company stock, the Owl Drug Company bankruptcy and the "serious" situation confronting the Louis K. Kiggett Company. His statement was in part as follows:—

Since January 1, 1933, considerable publicity has been given to certain negotiations for the sale of the investment in the ordinary shares of Boots Pure Drug Company, Ltd., of Great Britain. While an arrangement for the sale of a substantial part of these holdings has been made, the British treasury officials concluded that such an arrangement conflicted with the present policy of the British treasury with respect to the offer of securities to the British public. Arrangements have been made for the disposal of a substantially lesser number of shares.

In October, 1932, Owl Drug Company, operating a chain of retail stores on the Pacific Coast, all of the common stock of which and a substantial part of the preferred stock of which was owned by Drug Incorporated or its subsidiaries, was adjudicated a bankrupt. During the period since acquisition, the stock of the Owl Drug Company has been carried in "Investments in Affiliated and Associated Companies." It is proposed to treat this investment, the advances made to Owl, and merchandise claims against the bankrupt estate, as hereinafter outlined. All of such items appear on the consolidated balance sheet for 1932 under the caption of "advances and deferred items." The operating loss suffered by the Owl Drug Company for 1932 to September 30, the approximate date of bankruptcy, amounting to $1,119,311, has been excluded from the consolidated income statement submitted herewith.

The abnormal conditions existing in most lines of retail business, due principally to progressive decline in sales volume in each year since 1929, have seriously affected Louis K. Liggett Company, a retail subsidiary of United Drug Company. Liggett sales were less by $8,500,000 than in the year 1931, a decline of slightly over 14 per cent., resulting in a substantial operating loss. The difficulties encountered by the Liggett company have attracted wide attention and publicity and various landlord and real estate interests affected have organized a Liggett Landlords' Protective Committee, which is attempting by negotiation to relieve the lease burden on the Liggett company. While the committee has made substantial progress and its work is still continuing, it is still too early to predict the final results.

EMERSON'S BROMO-SELTZER

Emerson's Bromo-Seltzer, Inc., in its report for the year ended December 31, 1932, shows net income of $1,554,115, after expenses and ordinary taxes, equal, after dividends on the 8 per cent. preferred stock, to $2.01 a share on the 675,541 combined shares of Class A and B common stock. This compares with $2,069, 875, or $2.77 a share on the combined Class A and B shares in 1931. The company had no Federal tax liability in the two years, the dividends received being non-taxable.

LAMBERT CO.

Lambert Co. reports for 1932: Consolidated net profit after taxes and other charges, $3,763,706, equal to $5.02 a share on 748,996 capital shares, against $6,143, 129, or $8.20 a share in 1931. Balance sheet of Dec. 31 shows current assets of $6,825,760 and current liabilities of $1,238,245.

McKESSON & ROBBINS

The annual report of McKesson & Robbins, Inc., shows a net income, after deducting all expenses and cost of merchandise and crediting other income, of about $660,000, before provisions for interest on the debentures and other charges. After deduction of such charges and crediting income tax adjustment, the net

PACK-URGES*

by "Duff" Gordon

Those Romany BOXES:

The January issue of PACK-URGES called attention to those Rhapsody Boxes, sponsored and designed by Mrs. Avery Robinson for Mary Chess, Inc. . . . incidentally, mentioning that we supplied those packages . . . Now we learn that the line has been selected as one of "All-America Twelve" of outstanding packages, in connection with a competition sponsored by *Modern Packaging*. There were fifty-six set up boxes in competition, which really proves something (*To us it proves that you should place box requirements where workmanship and character are assured.*)

• • •

FAN MAIL:

Thanks are due the twenty-three readers who sent in copies of a little booklet entitled "URGINGS" . . . with the notations that "Imitation was the sincerest form of flattery" . . . We don't mind such gentle plagiarism if only the author would give "PACK-URGES" a credit line, or better still—tell through his booklet of the unusual character and quality of our own "NATIONAL" tubes. PACK-URGES was just a year old when this "Urgings" booklet broke in print so that speaks for itself.
(*Seriously though, we know the tube company whose products are advertised in "Urgings" as one of the cleanest and finest in the industry, so we are placing the blame for "Urgings" on someone else—maybe an adertising man or some wayward printer.*)

• • •

A "NEW DEAL" WANTED:

Ding, dash, zowie . . . And now the old morning game starts, while cream flies high and breakfast cools. This chap is somebody's customer, but should he survive the cap search he'll join the army of disgruntled hunters who are looking for a sensible cap solution for their favorite shaving cream . . . That new Capless tube of ours would be just the thing to swing over your line to greater popularity . . . There's a sample tube for you for the asking. Do the humane thing by your public and add an advertisable feature to your product.

• • •

ODORLESS COCOA-BUTTER:

Those smart little mailers used by R. F. Revson for his new improved Cocoa Butter brings up an interesting point which we never quite realized before . . . , which is, that Cocoa Butter is the ideal base for lipsticks, being actually beneficia to dry chapped lips. Previously the cost of perfuming cocoa butter made its use restricted, but with Revson's odorless product little perfume will be needed.
(*Send for a sample in one of our smart little mailers and convince yourself . . . Revson guarantees the cocoa butter, while we guarantee safe delivery.*)

"Pack-Urges" is issued occasionally in the interests of better packages. If you wish to receive it regularly it will be sent free upon request. Address: ***H. R. M. Gordon —A Complete Packaging Service—331 Madison Ave.*** *(Phone Murray Hill 2-1626)* ***New York.***

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One of the most valuable aromatic chemicals produced in the last decade . . .

Why?

It blends well in all types of floral bouquets.

It is more economical than the usual ingredients used.

It may be used up to 40% in Rose.

It is colorless and stable in the presence of alkalies.

When used as a modifier in a compound in the proportion of from 10 to 20%, it rounds off and harmonizes the other ingredients.

Further information regarding its use will be furnished on request.

Price list and information regarding other interesting AGFA specialties and aromatic chemicals on request.

GENERAL DRUG CO.

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operating loss for 1932 was slightly in excess of $900,000, compared with a profit after all deductions of $1,845,000 reported for 1931. The amount charged off out of earnings against receivables was substantially in excess of the operating deficit and greater than in any previous year.

Sales volume for 1932 held up fairly well considering conditions prevailing last year, the total exceeding $104,000,000 or about 13 per cent. less than the total reported in previous year.

The company substantially reduced its indebtedness as of December 31, 1932, the result being that the current financial position was about 6.4 to 1 as against 5 to 1 at the close of 1931. Current assets were in excess of $47,500,000, including approximately $2,700,000 cash, $16,500,000 accounts receivable and inventories of $23,800,000, against total current liabilities of $7,400,000. Cash on hand was only about $100,000 less than the previous year. Bank loans and trade acceptances were reduced approximately $2,600,000 and inventories nearly $4,500,000. The report also will reveal a reduction of about $1,000,000 in the amount of outstanding debentures to $20,075,000 as of December 31, 1932.

The board of directors has decided on a substantial re-valuation of the company's fixed assets to conform to present day value. A re-appraisal by the American Appraisal Company has reduced lands, buildings, equipment, leaseholds, etc. from $10,909,778 after reserve for depreciation to $5,573,000 after reserve. The directors have determined further to set up a special contingent reserve of $4,000,000 against those receivables and investments which have been carried among the slow assets. This is an additional reserve provided because of the economic conditions in the country and is only made after full regular reserve has been made for all known, doubtful and bad accounts in the operating statement of the company, it being the feeling of the directors that it would be conservative to have such a general reserve at this time.

MERCK & CO.

Merck & Co. Inc., has reported to stockholders (of which Merck Corp. is the largest, owning about 65½% of the stock) a net income of $582,072.47 for the year ended December 31, 1932, after all expenses including depreciation reserves and estimated Federal and Canadian income taxes. In 1931 Merck & Co. Inc. and subsidiaries showed a net income of $408,119.09. Current assets as of December 31, 1932, were $5,328,528.61 against current liabilities of $401,458.19, as compared with $5,624,300.16 and $378,186.95 respectively in 1931. Cash and securities amounted to $1,757,608.38 (of which $1,645,313.85 is cash), as compared with $1,657,713.70 (all cash) the previous year. During 1932 the firrst mortgage bonds of Merck & Co. Inc. were further anticipated to the extent of $300,000 so that the total outstanding $600,000 was reduced to $300,000. During the past five years the bonded indebtedness of the Company has been reduced from $2,700,000 to this figure. Inventories were $2,625,212.96, a decline of $518,379.87 from last year. All inventories were written down to cost or replacement cost, based on the market for raw materials, whichever was lower.

"During the year 1932, $135,083.21 was expended on research activities, all of which was charged to operating expense, says George W. Merck, president, in his report. Construction work was started on a new research laboratory at Rahway, N. J., which, upon completion the early part of this year, will represent an investment of approximately $200,000. It will provide the most modern facilities for the staff of twenty-five research chemists. To a greater extent than in most industries, future progress is dependent on research for the development of new products and the management feels that in intensifying the research activities of the Company the soundest insurance is provided for the Company's future.

MEAD JOHNSON

Mead-Johnson Co. reports for the year ended December 31, 1932, a net profit of $1,106,757. This, after provision for preferred stock dividends, is equivalent to $5.09 a share on common stock. Before profit was established, Federal income tax and depreciation were deducted.

The American Soya Products Corp., an affiliate of Mead-Johnson, recently began operations to produce "Nusoy," a finely ground, colorless and tasteless soybean flour.

MONSANTO CHEMICAL WKS.

Monsanto Chemical Works reports for 1932: Net profit after depreciation, interest, Federal taxes and other charges, $1,012,698, equivalent to $2.37 a share on 427,197 no par shares outstanding, compared with $1,280,782, or $2.98 a share on 429,000 shares, in 1931. Quarter ended Dec. 31: Net profit after above deductions, $276,656, equal to 64 cents a share on 427,197 shares, against $201,821, or 47 cents a share, in preceding quarter and $245,338, or 57 cents a share on 429,000 shares, in last quarter of 1931.

NEW JERSEY ZINC

New Jersey Zinc Co. reports for 1932: Net income, after depreciation, depletion, taxes and other charges, $2,013,120, equivalent to $1.02 a share on 1,963,264 $25 par shares, against $3,051,589, or $1.55 a share in 1931. Quarter ended Dec. 31: Net income, after above deductions, $417,790, equal to 21 cents a share, against $516,330, or 26 cents a share, in preceding quarter and $546,751, or 28 cents a share, in fourth quarter of preceding year.

NORWICH PHARMACAL

Norwich Pharmacal Co., has reported a net profit of $631,114 for the year 1932, after expenses, Federal taxes, and miscellaneous deductions. After payment of the regular quarterly dividends at the rate of $1 per share and in addition an extra dividend of $1 a share, there remained a balance of $132,954 to be added to the surplus. The surplus at the beginning of the year was $2,061,044 and as of the end of the year it totalled $2,187,401. Current assets at the end of the year amounted to $2,137,788 and total current liabilities were $485,083, a ratio of 4.41 to 1 as against a ratio of 4.25 to 1 year previous.

PARKE, DAVIS & CO.

The annual financial report of Parke, Davis & Co. for the year ended December 31, 1932, showed a net profit of $5,927,923 after depreciation, federal taxes and foreign exchange losses. This was equal to $1.21 a share on 4,874,991 capital shares and it compared with a net profit of $6,292,565, or $1.29 a capital share on 4,873,517 capital shares, for the year ended December 31, 1931.

HELENA RUBINSTEIN

For the year ended December 31, 1932, Helena Rubinstein, Inc., cosmetics, New York, has reported a net income of $120,904 after depreciation, Federal taxes and other charges. This was equal to $1.09 a share on 110,579 no-par $3 convertible preferred shares, comparing with a net income of $415,961, or 26 cents a share on 294,492 no-par common shares, after $3 preferred dividends in 1931. The company showed current assets of $1,348,810 and current liabilities of $184,043 as of December 31, 1932, which compared with current assets of $1,449,685 and current liabilities of $232,708 as of December 31, 1931.

SHARPE & DOHME

Sharp & Dohme, Inc. reports for 1932: Net profit after taxes, provision for contingencies and other charges, $703,479, equivalent to $3.07 a share on 229,085 no-par $3.50 cumulative convertible preference shares, on which accumulated dividends amounted to $171,814 at end of year. This compares with $777,492, or $3.39 a share on preference stock in 1931. Current assets on Dec. 31, including $1,834,621 cash and United States Treasury certificates at par, amounted to $6,676,219 and current liabilities, $271,553. At close of 1931, cash was $1,437,159, current assets $6,841,081 and current liabilities $257,012.

ZONITE PRODUCTS

Zonite Products Corp., reports for 1932: Net profit after depreciation, taxes, inventory adjustments and other charges, $563,400, against $953,177 in 1931.

COLD CREAMS
SUNBURN CREAMS
TISSUE & HORMONE CREAMS
VANISHING CREAMS
LIQUID EMULSIONS

Improve

YOUR PRODUCTS

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EYE WASHES
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PROTEGIN

An absolutely odorless lanolin derivative. More than just an absorption base. It is offered in two grades:
PROTEGIN for HORMONE and TISSUE CREAMS having an unusually high water content and absorbability.
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EMULSIFIER 157

A chemically pure base for stable oil-in-water type liquid emulsions such as ALMOND MILK, HAND LOTIONS, etc. Write for samples and formulae.

PRESERVATIVES

NIPAGIN M, NIPASOL M, and NIPABENZYL, chemically pure esters of p-hydroxybenzoic acid. Phenol coefficients: 3, 17, and 109. Neutral and non-irritating.

Recommended for their high efficiency in agar emulsions, gum solutions, eye washes, hair waving preparations, vaginal douches, vegetable oil emulsions, skin creams, and in any products which require an antiseptic or preservative.

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Beeswax Bleacheries and Refineries in Morris County, New Jersey, and Westchester County, N. Y.

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How many times have you heard . . .
"Yes we have something better but the price is higher"?
How many times have you heard . . .
"I'd like to help you out but the boss won't give his OK"?
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"We're sorry but our milling department hasn't finished your order"?

In Contrast

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One price
One type of service—and
Personal Dealings with our officers
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on all botanicals whole and milled, especially such cosmetic leaders as
ORRIS . QUINCE . LAVENDER . HENNA . ARABIC . KARAYA . TRAGACANTH

Importers **Millers**

Obituaries

Harold F. Ritchie

Harold F. Ritchie, prominent manufacturer and distributor of drug and cosmetic products, and president of corporations bearing his name in the United States, Canada and England, died unexpectedly in Toronto on February 22 at the age of 51. He was born in Bobcaygeon, Ontario,

a son of W. D. Ritchie, of Ogdensburg, N. Y., and was educated in the Ontario public schools and Toronto University.

He was graduated from the university at the age of 22 and immediately started in business for himself. He organized the firm of Harold F. Ritchie & Co., Ltd., of Toronto, for the distribution of merchandise on a large scale, and three years later became the sales representative in North America for Eno's Fruit Salts, manufactured by J. C. Eno, of London, Eng. In 1928, he purchased the London business of J. C. Eno and became a director of that company as well as of the Thermogene Company, Ltd., of Hayward's Heath, Eng. In order to market his new products he formed International Proprietaries, Ltd., with headquarters in Montreal.

Previously in 1911 he had formed Harold F. Ritchie & Co., Inc., to handle his business in the United States, and he likewise formed a unit in England, the British Harold F. Ritchie & Co., Ltd., London. In 1930 he formed an association with the Shoemaker interests of Elmira, N. Y., and they acquired the Frostilla Co., and the Pompeiian Co. In 1931 he and the Shoemaker interests jointly acquired the seventy-year-old Scott & Bowne Co., of New York and Bloomfield, N. J. He was president of all of the companies heretofore named and in addition was a director of D. D. Hawthorne & Co., Ltd., Toronto; Cameron Heap, Ltd., Regina, Sask.; Ward Vallance & Co., Calgary, Alta., and several others.

Simon Spitalny

Simon Spitalny, treasurer, Superior Products Corp., Linden, N. J., cosmetics, died at his home in Elizabeth, N. J., February 14.

Robert McNeil

Robert McNeil, founder of the pharmaceutical company bearing his name, died at his home in Germantown, Pa., February 12, aged 77. He graduated from the Philadelphia College of Pharmacy and Science in 1876 and in 1879 founded the business which during recent years has been conducted by his son, Robert Lincoln McNeil.

George P. Adamson

George P. Adamson, founder and president, Baker & Adamson Chemical Works, Easton, Pa., which was absorbed by the General Chemical Co. in 1910, after which he became chief chemist and director of research for the latter company, died in Searsport, Me., February 16, aged 68. He was graduated from Lafayette College in 1884, and three years later received his master's degree and founded the firm of Baker & Adamson. He retired in 1927.

Mrs. Sara H. Hayden

Mrs. Sara H. Hayden, formerly head of New York Pharmaceutical Co., with laboratories at Bedford Springs, Mass., died February 18 at her home in the latter city.

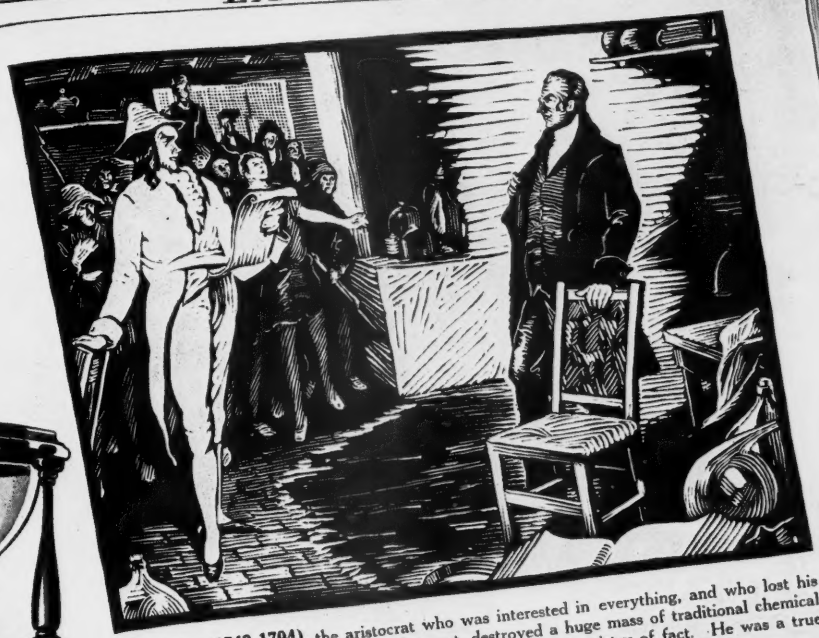
(Continued on page 268)

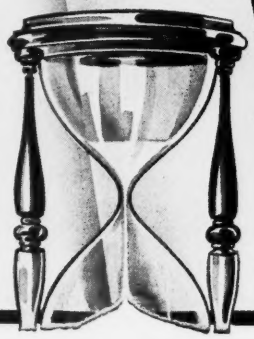
LEADERSHIP

THRU THE PAGES OF CHEMICAL HISTORY

30

LAVOISIER





Lavoisier (1743-1794), the aristocrat who was interested in everything, and who lost his head because he was an aristocrat, destroyed a huge mass of traditional chemical rubbish, clearing the way for the modern chemistry of fact. He was a true progressive.

and to-day

MONSANTO

occupies a ranking position as a supplier of basic materials to the pharmaceutical industry. For example Monsanto is a leading producer of

SALICYLATES

The exceptional purity and consistent dependability of this important group of medicinals gives them preference among discriminating buyers.

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Acetyl Salicylic Acid U. S. P and 10% Starch Granulations
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Monsanto
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Shipping Materials	Aromatic Chemicals	Raw Materials

Published by

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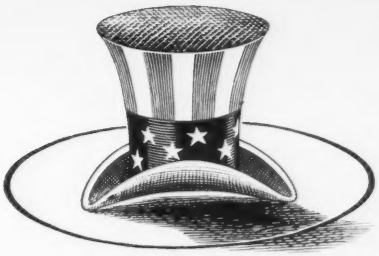
101 West 31st Street New York, N. Y.

Publishers of

THE DRUG AND COSMETIC INDUSTRY

TRADITION



A body of beliefs and usages handed down from generation to generation.
—*Standard Dictionary.*

Does science or tradition dictate the ingredients which make up your tooth paste? Because the original formula called for a certain chalk, are you still using that same material, regardless of advantages you may now obtain elsewhere?

Our recent advertisement in this publication, headed "The pace of his ancestors" illustrates the point, as do also the expressions often heard like, "The founder of our business gave us that formula", "What was good enough for father is good enough for me", etc.

In these trying days, every effort must be made to improve products and reduce manufacturing costs. We want your chalk business. Frankly we are trying to shock you loose from traditional methods of chalk purchasing. Our Snow Top Brand has the eight qualities necessary for good chalk, and one of the greatest of these is **Freedom from Grit.**

Scientific manufacture and control enables us to furnish this chalk with the "Made in America" label. It has all the fine qualities you expect to find in a first class chalk, made of American raw materials, with American machinery and by American workmen. Our raw materials are ample, our plant large enough to take care of our present trade, plus an amount equal to all the chalk imported into this country.

Toss tradition to the winds---improve your product---reduce the cost of your ingredients---buy American Chalk, and go forward with America to renewed prosperity.

INDUSTRIAL CHEMICAL SALES COMPANY, INC.

230 Park Avenue **New York**

SNOW TOP

CRETA PRÆCIP
U. S. P.

PRECIPITATED CHALK

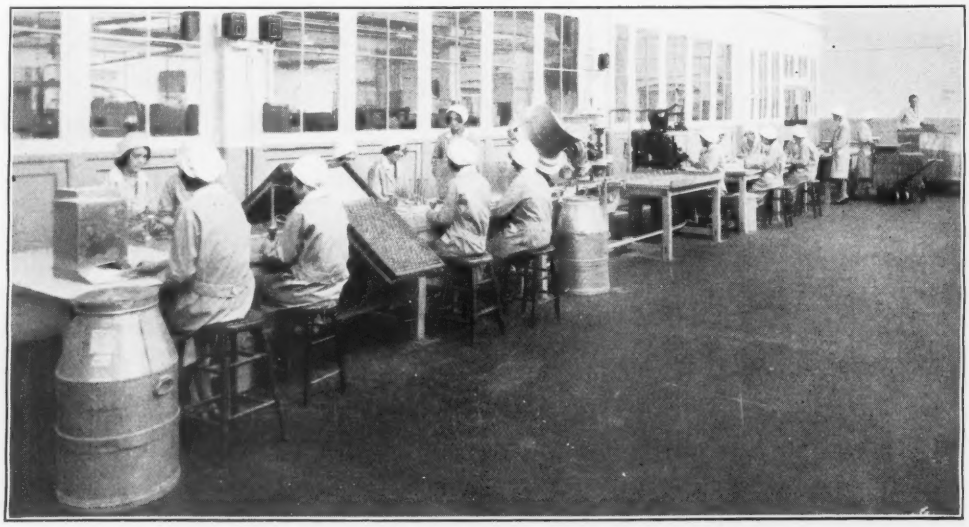
THE STANDARD AMERICAN BRAND FOR OVER A CENTURY

Quinine

SULPHATE AND MINOR SALTS

Cinchonine, Cinchonidine, Quinidine and other salts
Cinchona Mixed Alkaloids (crystals)

The first manufacturers of Quinine in the United States were the founders of Powers & Weightman. Their skill and experience are now the heritage of Merck & Co. Inc. Every operation, from the examination of the Cinchona bark to the finished product and its packing and shipping, is scrupulously supervised. With such a background "P. & W." Quinine manufactured by Merck is strongly entrenched as the standard American brand.



View of Quinine Sulphate Packing Room at Merck's Rahway Plant

MERCK & CO. INC.

MANUFACTURING CHEMISTS

RAHWAY, N. J.

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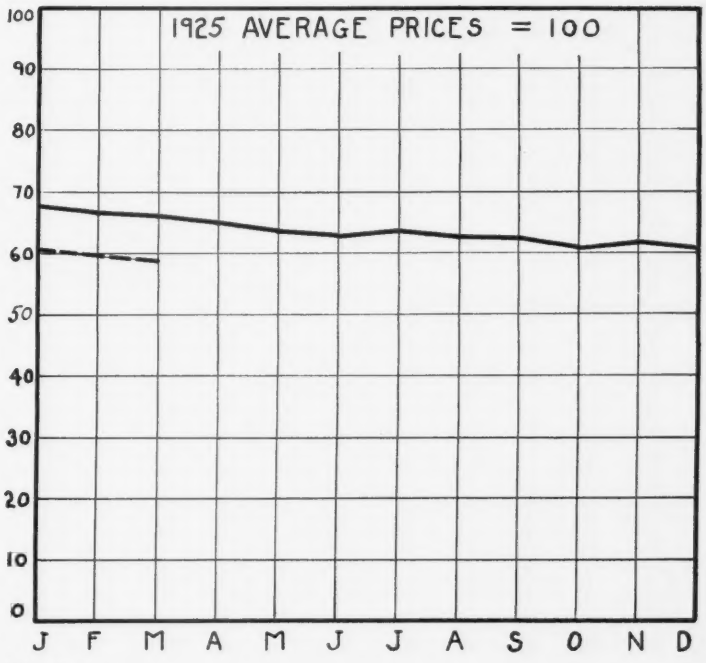
In Canada:
MERCK & CO. LTD.
Montreal, Toronto

Raw Material Markets

Chemicals
Drugs
Essential Oils
Medicinal Oils
Natural Products
Cosmetic Materials
Flavors

Weighted Index of 50 Raw Materials



Index Numbers

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1932	67.7	66.2	65.8	64.8	63.0	62.5	63.1	62.7	62.4	60.8	61.2	60.8
1933	60.4	59.7	58.9									

Drug and Cosmetic Indexes

With this issue we inaugurate a series of indexes of prices of the raw materials of the industry so that executives in the industry can easily keep acquainted with the trend of prices of raw materials. These indexes have been most carefully weighted so that their changes actually reflect the true change in the value of the total purchases of raw materials of the industry.

We have chosen 1925 as a base with which to compare values, since 1925 is now regarded as a normal year. The index for the industry is based upon fifty raw materials which reach into all phases of the industry. Supplementing this index, are indexes based upon the following: *Medicinal Chemicals, Essential Oils,* Botanical Drugs, and Cosmetic Raw Materials. In all of these groups the raw materials selected have been chosen with particular regard to their origin, to their use in the industry, and to their importance in the industry. Naturally it was necessary to select such of those raw materials for which statistical information was available back to 1925.

Quinine was naturally included in the medicinal chemical index, for its stabilizing influence if for nothing else, as it was thought at the time. However subsequent events have proven that quinine can move in price, and its sharp reduction this month is reflected in the index.

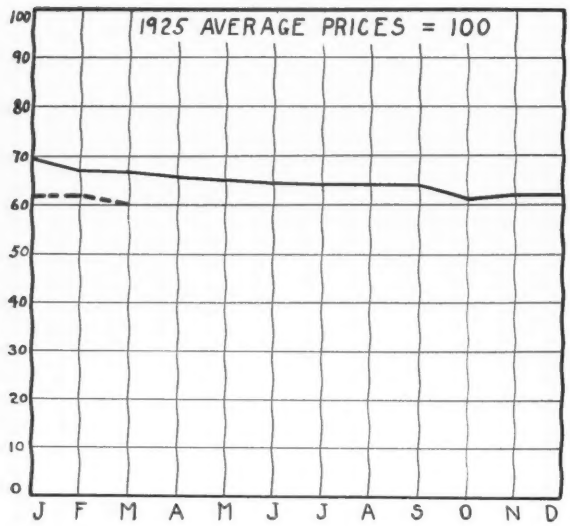
Essential oils include those oils which are most important from a viewpoint of their use and their origin. Thus it was necessary to include flavoring oils both domestic and foreign, and it was necessary to include perfuming oils both domestic and foreign. Other uses had to be considered in the selection, and proper distribution of the products throughout the various foreign markets had to be considered also.

The facts hold true of the index of the botanical drugs and of the index for the cosmetic raw materials.

As can be seen from the graph, the botanical group has shown its first upturn during this month. Thus the slight inflation of prices of natural raw materials resulting from moratorium shows itself clearly in this group as it does also in essential oils.

Medicinal chemicals showed a tendency to advance toward the close of 1932, but

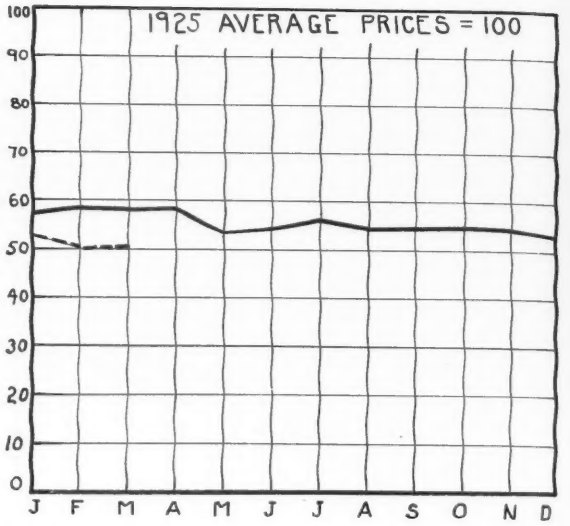
Weighted Index
15 Medicinal Chemicals



Index Numbers

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1932....	69.5	67.0	66.8	65.4	64.4	63.5	63.7	63.8	63.4	61.0	61.9	61.8
1933....	61.6	61.4	60.0									

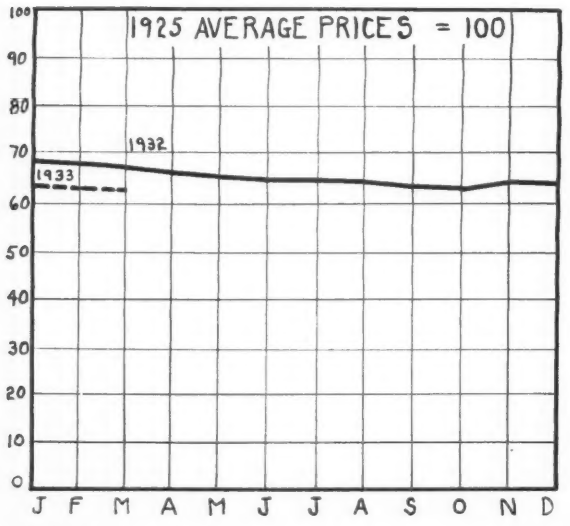
Weighted Index
15 Essential Oils



Index Numbers

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1932....	57.6	58.6	58.2	58.3	53.8	54.7	56.3	54.9	55.0	54.9	54.4	53.4
1933....	52.6	50.3	50.6									

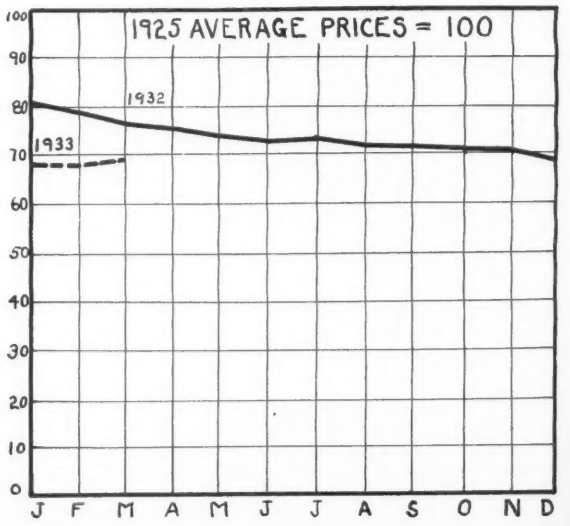
Wholesale Price Index
25 Cosmetic Materials



Index Numbers

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1932....	68.6	68.0	67.4	66.3	65.6	64.4	64.7	64.1	63.6	63.3	64.3	64.1
1933....	63.4	63.0	62.8									

Weighted Index
13 Botanical Drugs



Index Numbers

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1932....	80.8	79.3	76.4	75.2	73.6	72.8	73.3	71.9	71.8	70.1	70.0	68.7
1933....	68.1	67.9	67.9									

this influence toward more stable or higher prices has been offset during the present month. This is partly due to the sharp reduction in the price of quinine and its salts.

Cosmetic raw materials likewise exhibited a rising tendency toward the close of 1932, but this also has been largely eliminated during the first quarter of the current year.

In the April issue we shall give a complete story of all these indexes from 1925 to date. We shall give the names of the raw materials upon which the indexes are based; we shall show the indexes for every month since 1925 to date, both the actual index figures and the graphs. Thus we will make available for the first time a complete picture of price situation in the raw materials of our industry. From that point on we shall continue to compile this authentically derived information so that executives can have this information before them continually.

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FINE CHEMICALS

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Acetyl Salicylic Acid

Methyl Salicylate — Minor Salicylates

CREOSOTE

CREOSOTE CARBONATE

GUAIACOL

Formaldehyde
Para Formaldehyde
Hexamethylenetetramine
Benzoate Soda
Benzoic Acid
Benzaldehyde

Benzyl Chloride
Bromides
Silver Salts
Calcium Guaiacol Sulphonate
Potassium Guaiacol Sulphonate
Glycerophosphates

HEYDEN CHEMICAL CORPORATION
50 UNION SQUARE NEW YORK

180 North Wacker Drive Chicago, Ill.

Factories:

Garfield, N. J. Perth Amboy, N. J.

Quinine Reduced Sharply

A drastic reduction of prices of quinine and its salts amounting to 25 per cent. and bringing the price of the sulfate down from 40 cents per ounce to 30 cents per ounce, was announced March 14 by American producers and importers of quinine, based upon a general world-wide reduction by the Dutch quinine monopoly. The new price is the lowest which has been quoted openly since before the war.

Reasons for the reduction are not far too seek. Just shortly before the announcement of the lower price, word came from Washington of a proposed conference of the League of Nations on the subject of quinine. The various governments of the world are large buyers of quinine for control of malaria, and these nations have been seriously checked in their purchasing power. Consequently, the fact that the quinine item in the various government budgets had to remain the same or the amount of quinine available had to be reduced, probably caused questions to be asked which finally resulted in a recommendation by the Health Committee of the League that a conference be called.

Ostensibly as a means of forestalling embarrassing action by such a conference, the Dutch monopoly has reduced its price. Beside fitting in with the reduced purchasing power of the various governments, this lower price also meets the lowered purchasing power of individuals throughout the world.

In the opinion of some, the reduction is not sharp enough and will not sufficiently satisfy the various factors working toward lower prices. The enormous surplus of bark which the Dutch monopoly holds, and which it must constantly add to, as it is necessary to spend a large part of its profit to buy surplus bark and hold it from breaking the market, is always a potent factor. Today, this factor looms larger than ever due to the decreased recourses of every firm and individual.

Following is the current price list:

	In quantities of 100 ozs. or more
Quinine sulphate USP	$0.30 per ounce
bisulphate USP	0.30 " "
alkaloid USP	.51 " "
acetate	.68 " "
arsenate	.71 " "
arsenite	.73 " "
citrate	.46 " "
dihydrobromide	.50 " "
dihydrochloride	.49 " "
ferrocyanide	.69 " "
formate	.66 " "
glycerophosphate N.P. IV	.87 " "
hydriodide	.71 " "
hydrobromide USP	.45 " "
hydrochloride	.47 " "
hydrochlorosulphate	.49 " "
hypophosphite N.F. IV	.65 " "
phosphate	.57 " "
salicylate USP IX	.48 " "
tannate USP	.38 " "
tartrate	.69 " "
valerate N. F. IV Powd.	.73 " "
urea hydrochloride USP Powdered	.50 " "

Smaller quantities proportionately higher.

Competition in thymol iodide has resulted in lower prices. The market is now $3.80 per pound. Thymol, on the other hand, displays a firmer tone.

Camphor Advances Sharply

Due to the currency situation and a firm Japanese market, spot prices for camphor have been advanced sharply. Slabs are now quoted at from 42c to 43c per pound; refined powdered at from 43c to 44c and ½oz. tablets at from 47c to 48c per pound.

A good demand is reported and the market is, of course, contingent upon the reestablishment of an official trading value for the dollar.

Imports of synthetic camphor into the United States in 1932 were the lowest since 1924, the trade having been in continuous decline since 1929, the peak year, when receipts totaled 3,957,000 pounds valued at $1,376,000. The following table indicating imports of synthetic camphor during the past three years reflects, notably, Germany's lead in the industry and our resumption of business with Italy in 1932:

1930		
Country of Origin	*Pounds*	*Value*
Germany	2,206,036	$781,566
Italy	154,405	54,173
Switzerland	44,164	14,957
France	110	60
Total	2,404,715	$850,756

1931		
Country of Origin	*Pounds*	*Value*
Germany	1,797,918	$857,569
Italy	.....	.....
Switzerland	198	65
France	.....	.....
Total	1,798,116	$587,634

1932		
Country of Origin	*Pounds*	*Value*
Germany	1,223,030	$340,974
Italy	203,576	55,493
Switzerland	33,071	9,538
France	.....	.....
Total	1,459,677	$406,005

Chilean Iodine Production

Although Chile continues to be the largest single source of iodine production, from the figures available it would appear that the Chilean product has suffered the loss of a greater percentage of consumption than has the product of other nations. Based on the average for the four years, 1922-1925, Chile contributed in the neighborhood of 70 per cent. of the world's consumption whereas for the four year period, 1928-1931, that country, presuming the sale of Chilean iodine to the Iodine Combine as representative of the approximate consumption from stocks supplied an average of less than 60 per cent. (Commercial Attache Ralph H. Ackerman, Santiago.)

Mercury Up

Developments in the mercury market are being watched closely. Prices on spot have advanced to the basis of from $53 to $55 per flask and only limited quantities of material are available at these figures.

The lack of a normal production for some time now, due to the low prevailing price level, which has closed down most of the domestic mines, is being severely felt for the first time.

Glycerin Steady

Demand for glycerine CP is fairly steady but mostly for routine lots. In view of the current low prices and the steady market for raw material, refiners show little inclination to shade quotations. Spot price 10¼c per pound.

Although production of glycerin, according to figures released by the Bureau of the Census, declined in 1932, stocks continued the upward trend which has been evident for the past several years. Production and other glycerin consumption factors are summarized below:

	1931	
Imports	*Pounds*	*Value*
Glycerin, refined	1,975,970	$141,595
crude	9,951,473	514,606
Exports		
Glycerin, all grades	328,143	48,095
	1932	
Imports	*Pounds*	*Value*
Glycerin, refined	2,333,606	$140,914
crude	5,184,411	195,476
Exports		
Glycerin, all grades	260,329	28,609

	Production (lbs.)	
	1931	*1932*
Glycerine, crude, 80% basis	138,847,219	133,918,825
Dynamite glycerine	43,365,948	41,538,670
Glycerine, chemically pure	70,527,961	64,623,975

	Stocks on hand Dec. 31 (lbs.)	
	1931	*1932*
Glycerine, crude, 80% basis	15,368,286	18,079,125
Dynamite glycerine	11,749,900	16,258,544
Glycerine, chemically pure	11,177,720	14,814,537

Sellers of potassium iodide have readjusted their price schedule. The minimum price of $2.15 per pound had previously applied to 50 pound boxes but under the new schedule this price applies also to 25 pound boxes.

Recent arrivals of menthol from Japan have alleviated the tense condition caused by spot shortage of material. Stocks are now ample to provide for sales requirements of importers.

Prices ranged considerably wider due to the individual opinions of importers and dealers. The minimum price in some quarters was $3.00 per pound with as high as $3.50 asked by other factors.

Well informed importers, however, look for a gradually increasing market from the price standpoint. Menthol at $4.00 per pound or better is said to be a prospect for this year, these predictions being based principally on the statistical position of the item. A 40 per cent. drop in production last year is the bullish factor that keeps the Japanese market in a very firm position.

Cream of Tartar Inactive

Cream of tartar is marking time with the undertone of the market firmer due to the already low prevailing prices and the generally complicated business situation. Raw material is said to be ample for needs of a reasonable sort in the near future.

Made from American Lemons

Exchange Brand Citric Acid U. S. P. is made from American Lemons by the Exchange Lemon Products Company of Corona, California. It is backed by the Sunkist group of 13,200 California Citrus growers, the largest in the world. Immediate shipments are made from warehouse stocks in New York, Chicago, Philadelphia and St. Louis. Consult any of our distributors for prices on kegs, barrels or carloads.

Exchange X BRAND

CITRIC ACID U. S. P.

CRYSTALS · GRANULAR · POWDERED

DISTRIBUTED EAST OF THE ROCKIES BY

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St. Louis Philadelphia
New York Chicago

J. T. BAKER CHEMICAL COMPANY
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New Jersey

DODGE & OLCOTT COMPANY,
180 Varick Street,
New York City

NEW YORK QUININE & CHEMICAL WORKS
101 North 11th Street
Brooklyn, New York

SWANN CHEMICAL COMPANY, Birmingham, Alabama

THE HARSHAW CHEMICAL COMPANY, Cleveland, Ohio

PACIFIC COAST SERVED BY

Products Department - CALIFORNIA FRUIT GROWERS EXCHANGE, Ontario, California

Cod Liver Oil Fluctuating

The suspension of exchange had a considerable influence on the cost of cod liver oil with prices advancing to the basis of from $20.00 to $22 00 per barrel. This was due entirely to conditions in the primary market and not to any unusual buying movement here.

Late reports state that cabled prices have again become easier with the resumption of definite rates of exchange and prices have declined to practically the same basis as prevailed before the banking holiday interferred with trading between the producing country and the American market.

Cod liver oil is, therefore, again offered at prices ranging from $18 00 to $20.00 per barrel as to quantity and brand offered.

Fishing operations have started in Norwegian waters, but it is understood that the catch has been running light by reason of stormy weather conditions.

The production of steamed medicinal cod-liver oil in Norway during 1932 amounted to 95,000 hectoliters, against 59,000 in 1931, a gain of about 60 per cent. Exports totaled 128,309 hectoliters in 1932, against 99,584 in 1931 an increase of approximately 30 per cent. In 1932 the United States took 35,767 hectoliters, as compared to 25,674 hectoliters in 1931.

The production of Norwegian cod liver oil during the past six years was as follows:

	Hectol		*Hectol*
1932	94,844	1929	91,604
1931	58,950	1928	50,981
1930	78,338	1927	71,997

The production for 1932 has only been exceeded twice, in the years 1924 and 1926.

Exports for the past six years were as follows; the shipments for 1932 being the second largest on record:

	Barrels		*Barrels*
1932	113,970	1929	115,310
1931	92,302	1928	68,917
1930	92,269	1927	79,2111

No figures are available as to the carry-over but it is reported that stocks are below normal.

It was reported from Newfoundland on January 21, 1933, that most of the years production of cod liver oil amounting to between 250,000 and 300,000 Imperial gallons had been exported. Greater demand had been noted for poultry and cattle feeding oil and producers were urged by the Newfoundland Board of Trade to increase their production of high grade oil of this type. (Consul General Edward A. Dow, St. John's).

A new cod liver oil industry has been started in Nova Scotia and is stated to be the first effort to manufacture medicinal cod liver oil as an entirely Canadian product.

"The medicinal cod liver oil is now being fully refined in Nova Scotia by the National Laboratories (Ltd.), a subsidiary of Maritime-National Fish (Ltd.)" reports the Canadian Development News. "The oil is extracted from the freshly caught fish on trawlers at sea by use of a special apparatus, and undergoes a final processing at Halifax to make it ready for marketing." (Assistant Trade Commissioner Aylwin Probert, Montreal).

Citrus Oils Firmer

Bergamot, lemon and orange oils show a firmer tendency on spot. This is due to the uncertainty still prevailing regarding replacement costs on shipments from abroad.

Italian citrus oil report for December 1932 states that the unfavorable condition in the Italian citrus oil industry were rendered more acute by the doubt as to the future of the Camera Agrumaria. Demand was slight and prices declined further. Prices on December 27, 1932 were:

	Per Sicilian Pound
Lemon Oil:	
Sponge process	
New production	Lire 7.00
Old "	6.00
Machine	4.25 to 4. 0
Orange Oil:	
New production	11.00
Old "	10.00
Bergamot	9.00 to 10.00

The production of orange oil in other areas of the world, as in the French possessions of Northern Italy which has tended to meet the requirements of French perfume manufacturers, has affected adversely the market for the Sicilian oil. (Consul C Porter Kiykendall, Naples).

Italian citrus oil report for January—American Consulate, Messina. Demand during January remained lethargic. Production, while keeping pace, continued limited. Oil was offered apparently only as a result of the immediate need for money. The United States has been almost totally absent from the market.

It was estimated in certain quarters that no more than 240,000 kilos of essential oil of lemon were produced during 1931-32 and that the stock of this oil at the end of December, 1932, amounted to about 340,000 kilos, equivalent to approximately 1,000,000 Sicilian pounds. Although several exporters give 150,000 kilos as a probable estimate of the 1932-33 production, it seems possible that more oil may be produced this year than last.

The 1932-33 production of orange oil was unofficially estimated at about 15,000 kilos, compared with 80,000 to 90,000 kilos in 1931-32.

The quantity of bergamot oil declared in 1932 to the Consortium amounted to 600,000 Sicilian pounds, of which 150,000 pounds were in the hands of exporters and 450,000 pounds with the producers. An estimate of the new 1933 production places the figures at about 600,000 Sicilian pounds, equal to approximately 190,000 kilos, as against 90,000 kilos produced last year.

As a result of recent sharp advances in the metal, silver nitrate prices have been advanced to the basis of from 22½c to 24½c per pound.

Peppermint Oil Active

A better demand is said to have developed for peppermint oil. Spot market prices are firm and unchanged from prevailing levels a month ago.

The market in the middle west showed a slightly easier tendency when the banks closed evidently being a desire to obtain cash if possible. The general tendency now is to await further developments.

Export trade is becoming increasingly significant to American peppermint producers, oil distilleries and dealers as evidenced by the steady increase in sales of peppermint oil to foreign countries—despite a marked decline in United States production of this farm product. United States exports of peppermint oil increased from 176,718 pounds in 1928 to 262,210 pounds in 1932, a total gain of 48 per cent. during the five-year period, whereas production of peppermint oil in the five leading mint states (Indiana, Michigan, Ohio, Oregon, and Washington) declined from 1,073,000 pounds in 1929 to 411,000 pounds in 1932, according to Department of Agriculture estimates. Furthermore, although the unit value of export shipments have declined somewhat, comparable with the trend in domestic prices, the total value of exports in 1932, amounting to $455,017, represented a gain over 1931.

The United Kingdom receives in the neighborhood of 50 per cent. of United States peppermint oil exports, for consumption and reexportation. About 149,000 pounds of peppermint oil were exported to the United Kingdom in 1932 as compared with 116,775 pounds in 1931. Germany, the second most important market received 34,700 pounds in 1932 against 23,500 pounds in the preceding year. Other important foreign markets for this oil are Canada, France, and Australia.

Alcohol Prices

The alcohol trade as a whole is looking forward to some general decision regarding prices for the second quarter of 1933. The general feeling was that the present schedule would be repeated and would be announced within a few days. However, in view of the inactive commercial and financial situation, official announcements were awaited with more than ordinary interest. In the meantime prices are holding steady.

The following prices prevail on the basis formula completely denatured alcohol No. 5 until March 31, quoted f. o. b. works:

C. D. A. 5 in drum carloads	$0.385
5 to 19 drums	0.445
1 to 4 drums	0.465

Credit of 1c per gallon is given on this formula in carloads or more.

New NACO SPECIALTIES

M. NAEF & CO.
GENEVA, SWITZERLAND

NACO Amber No. 879 $6.50 pound

A new and inexpensive version of this indispensable character for Oriental odors—very sweet and lasting.

NACO Rose No. 1346A $12.00 pound

To the already splendid line of Rose Products by Naef, is added this unusually fine type. Fresh and strong, it is recommended for creams, powders and talcs.

NACO Jasmin No. 1594 $8.50 pound

A modern, inexpensive and remarkably fine odor—a worthy addition to the Naef Series of Jasmin.

NACO Fougere No. 1409 $9.00 pound

Ideal for soaps, talcs, shaving lotions and bath salts. A true and inexpensive version of this present day popular note.

UNGERER & CO.

13-15 West 20th Street

NEW YORK

Psyllium Imports Greater

Psyllium seed reflects the more or less general tendency of botanicals to advance due to the unsettled currency situation. French black seed is offered at from 9c to 11c per pound as to quantity and quality and the blond seed at from 5½c to 7c per pound. Temporarily, at least, the competitive factor has been reduced.

Although importations during 1932 reached an all time record the spot market has continued to absorb stocks to a very satisfactory extent, according to most factors.

The psyllium import trade volume in 1932 expanded to a record level and placed that item in the foremost position from the standpoint of both quantity and value among botanicals imported principally for medicinal use. There was an appreciable decline in value. The 1932 receipts aggregated 5,299,773 pounds, valued at $442,165 as compared with 1,850,500 pounds valued at $690,000 in 1931. Of the 1932 receipts, France supplied 2,397,572 pounds worth $292,549, and British India contributed 2,404,694 pounds valued at $97,105. Smaller quantities received from Belgium were transhipments presumably.

The psyllium produced in Greece during 1932 was estimated at 50,760 pounds. About 10,000 pounds sown late in 1931 and early in 1932 were expected to yield a considerably larger crop, but the growth of the plant was retarded by the rocky land which proved unfit under drought and the lack of irrigation facilities. In the past year, there was very little rainfall during the time of growing of the psyllium plant, which caused an almost complete loss of the seed sown on other than irrigated land.

During 1932, the area cultivated to psyllium in the Poloponnesus amounted to 1,250 acres, but during the current year over 3,000 acres are under cultivation, of which 2,500 acres consist of irrigated land. Where the plant during the past year was carefully watched and irrigated, the yield was considerable and in one or two cases as high as 2,143 pounds of seed per acre. It has been found that the Argos plain is the most suitable area for psyllium sowing in the Poloponnesus. Almost all the seed produced in the past year has been distributed for sowing during the current year, except 5,000 pounds which are to be shipped shortly to the United States and displayed as Greek psyllium in the Chicago Exposition. (Assistant Commercial Attache Ralph B. Curren, Athens.)

Cinchona Output Off 13%

The 1932 cinchona bark output of Netherland India was reduced by about 13 per cent. from the preceding year's production, having amounted to 9,300 metric tons as compared with 10,625 tons in 1931, according to a preliminary estimate of the Netherland Indian Department of Agriculture, Industry and Commerce.

Pyrethrum Demand Active

Demand for pyrethrum flowers continues along fairly active lines. With the spring season approaching a further increase in consumption is expected. No outstanding price movements are reported, but underlying conditions remain firm.

Imports of pyrethrum flowers into the United States were practically tripled in 1932, as compared with 1931, the receipts being the highest on record with the exception of 1928. As shown in the following table, noteworthy was the appreciable gain in direct trade with Yugoslavia:

	1930	
Country	*Pounds*	*Value*
Japan	8,223,939	$1,281,199
Yugoslavia	44,545	6,682
Italy	267,942	45,135
Soviet Russia	.....	.....
Other	.....	.....
Total	8,536,426	$1,333,016
	1931	
Country	*Pounds*	*Value*
Japan	3,871,842	$452,833
Yugoslavia	1,561	167
Italy	365,364	40,656
Soviet Russia	61,938	4,572
Other	220,438	23,875
Total	4,521,143	$522,103
	1932	
Country	*Pounds*	*Value*
Japan	11,061,923	$1,206,701
Yugoslavia	612,961	59,863
Italy	612,488	41,846
Soviet Rudsia	14,170	653
Other	.....	.....
Total	12,110,742	$1,309,063

The United States imported about 20 tons of derris root during 1932, acording to preliminary statistics issued by the Department of Commerce, as compared with about 2¼ tons in 1931.

Derris, or tuba root, is one of the fish poisons used in the Far East. It is becoming of increasing interest in this country in insecticides as a source of Rotenone.

Ginseng Exports Down

Unsettled conditions in China were no doubt largely responsible for the considerable decline in American ginseng exports during 1932 which totaled 171,318 pounds valued at $852,554 in contrast with 265,300 pounds valued at $1,922,243 in 1931. Hong Kong generally receives about 98 per cent. of United States ginseng exports where the product is sold at public auction prior to its distribution to the Chinese consuming centers.

Henna Price Range Widens

The market for powdered henna showed a wider range of prices prevailing in the spot market. According to seller, grade and quantity the range was from 9c to 13c per pound. Whole goods remain unchanged.

Spanish Thyme Nominal

Most sellers of Spanish thyme have been compelled to discontinue quotations as the material is practically out of the market. All orders are being filled from goods obtained from French sources at prices ranging from 7c to 8c per pound.

Ergot Imports Lower

Imports of ergot into the United States during the past three years declined from 291,300 pounds valued at $137,000 in 1930 to 287,000 pounds valued at $99,500 in 1931, and 198,000 pounds worth $67,000 in 1932. Imports of this drug from Spain, however, gained steadily from 61,300 pounds in 1930 to 70,200 in 1931, and 86,175 pounds last year. In the above respective years Russia supplied 8,700 pounds, 106,000 pounds and 37,000 pounds, and Germany 121,000 pounds, 310,300 pounds and 61,000 pounds respectively. During 1932, small quantities were received from Portugal, Hungary and Belgium.

A number of synthetic waxes, known as "I. G. Waxes" have been on the German market for some time and become established in many industrial uses, although such artificial products are still sold at higher prices than the natural. "I. G. Waxes" include several varieties of different consistencies and chemical properties. The products may be grouped in three classes corresponding, respectively, to Carnauba wax, beeswax, and stearine. Their affinities to the several natural waxes are more in the sense of similarity of industrial uses than with regard to chemical or physical characteristics.

It is stated that the synthetic waxes of the Carnauba group may be employed, without any reservations, in all those cases where Carnauba wax is used in industry, particularly in the manufacture of shoe polishes. The waxes of the beeswax type are used in sizes, finishing preparations, and for candles and cosmetics. The Stearine type is employed in candle manufacture. (Consul General W. L. Lowrie, Frankfort-on-Main.)

Kamala Advances

One of the outstanding developments in botanicals is the advance of 3c per pound in kamala. This item had reached record low levels at 16c and 18c per pound. This fact can be well appreciated when it is understood that the item seldom if ever sold below 50c per pound and most often above $1.00. The current market price is from 19c to 20c per pound as to quantity.

Gentian Root Strong

The extreme shortage of gentian root continues to be reflected in spot quotations. In fact the item is practically unobtainable on spot with dealers taking care of their regular customers only. What business was passing established prices at the following levels: Gentian root in bags 12c to 18c per pound, ground 13c to 20c and powdered 19c to 20c as to seller and quantity.

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Corona, California

Beeswax Active

Demand for beeswax for bleaching purposes has grown to considerable proportions during the past month. This is a natural development at this time of year as bleachers usually cover their requirements so as to be ready when the weather permits full operations.

The arrival of the banking holiday, however, slowed down the sale of this item to bleachers. The market is now very firm owing to uncertainty regarding shipment costs in dollars.

The Department of Commerce reports that the trend of United States beeswax over the greater part of the past decade has been upward. Imports for the four-year period, 1922-1925, inclusive, averaged approximately 3,350,000 pounds a year, while for the five-year period, 1926-1930, the yearly average increased to approximately 4,700,000 pounds. Imports in 1929 represented a peak year with receipts from abroad totaling 5,258,200 pounds valued at $1,545,600. The trade has declined since, however, imports during the calendar years 1930, 1931, and 1932 amounting to 4,312,100 pounds ($1,061,000); 3,680,400 pounds ($778,800); and 3,451,300 pounds ($468,000), respectively.

Gum Tragacanth Down Further

Due to the absence of a normal demand and a continued competitive influence, prices on gum tragacanth were again reduced. Number 1 gum is quoted at from 65c to 70c per pound, number 2 at from 52c to 57c, number 3 42c to 47c and powdered gum at from 60c to 65c per pound.

The late bank holiday has, of course, tended to strengthen the situation so that late reports indicate a firm market at these levels.

Gum Arabic Steady

With stocks of gum arabic on spot ample for immediate requirements there has been no decided fluctuations in prices due to the unsettled currency situation. Amber sorts were quoted in most quarters at from 6c to 6½c per pound with the general attitude of awaiting further developments and in the meantime to accept orders at the current market from established houses that have previously been supplied by the individual dealers.

Gum Gamboge Up

Although sales of gum gamboge are made up of small lots, the market shows an advancing tendency. Prices are up 5c per pound to the basis of from 50c to 55c. Powdered gum is quoted at from 65c to 70c per pound.

Senna Imports Gain

The quantity of senna imported during 1932 represented a gain of almost 50 per cent. as compared with 1931, although receipts were considerably below the 10 year annual average approximating 2,500,000 pounds. Following the severe recession in the direct trade with Egypt in 1931, imports of senna from that country in 1932 gained appreciably. Imports from other countries represented transshipments mainly through the United Kingdom and Belgium.

1930		
Country of Shipment	*Pounds*	*Value*
British India	1,210,900	$70,500
Egypt	1,095,100	92,600
Other countries	37,000	2,400
Total	2,343,000	$165,500
1931		
Country of Shipment	*Pounds*	*Value*
British India	932,300	$46,000
Egypt	120,400	7,400
Other countries	213,000	16,900
Total	$1,265,700	$70,300
1932		
Country of Shipment	*Pounds*	*Value*
British India	1,090,800	$44,400
Egypt	821,000	36,200
Other countries	38,500	2,400
Total	1,950,300	$83,000

Italian Citrate Lime Stocks

Since the close of the fiscal year on October 31, 1932, there have been deposited up to January 1, 1933, with the Camera Agrumaria 15,432 kilos of citrate of lime and 327,644 kilos have been sold, states a report from Consul C. Porter Kuykendall, Naples. Stocks on hand at the close of the fiscal year amounted to 8,246,478 kilos.

The selling price offered by the Camera Agrumaria remains at one lire a kilo and depositors are being paid 1.50 lire a kilo. The difference is being met by funds in possession of the Camera Agrumaria. There is still uncertainty as to the future of the Camera Agrumaria, and there exists a belief that the Camera may close during the year.

Lobelia Price Up

Very small offerings of lobelia on spot and in the primary market resulted in higher prices. The herb is selling at from 18c to 20c per pound.

Dandelion Root Very Firm

With a very firm European market for dandelion root, dealers here are not offering freely, and the price situation is very firm. The tendency is to extend the rise that put prices on the basis of from 10c to 11c per pound.

Cloves Tending Up

In accordance with the general trend of prices in the spice market, cloves have shown a rising tendency. Zanzibars are offered at from 10¼c to 10¾c per pound.

Aloes Slightly Lower

With only a slight demand for gum aloes for prompt consumption, prices have been shaded during the past month and late reports do not indicate that the currency situation has made material change in the position taken by the dealers. Cape is offered at from 8c to 9c per pound with Curacao at from 9c to 10c. Current prices are, of course, subject to change upon the reestablishment of a definite rate of exchange.

Asafoetida Advancing

The tendency of powdered asafoetida to advance is unchecked with leading dealers quoting from 32c to 35c per pound. These dealers are determined to establish this commodity at its true value as based on the cost to produce or to discontinue the article entirely. Lump continues steady at from 16c to 17c per pound.

Carnauba Demand Improves

Demand for carnauba wax has shown a moderate improvement during the past month. With shippers in Brazil marking time and awaiting the actual value of the dollar before offering, the spot market has taken on a firmer tone. Price for the number one grade wax is up 1¼c per pound to the basis of from 23½c to 24½c per pound as to quantity.

Japan Wax Quiet

Only a limited volume of business is passing in Japan wax. The uncertainty regarding replacement costs, however, has removed—temporarily at least—the competitive factor that has for some time now been reflected in lower quotations. Spot quotations are firm at an advance of ½c per pound with current offerings on the basis of from 6c to 7c per pound.

Gum Benzoin Firm

Although no change is noted in the current market price of gum benzoin, there are comparatively few offerings in the spot market due to the uncertainty regarding replacement costs. Leading dealers were supplying their established business at prices ranging from 18c to 20c per pound for Sumatra material.

Buchu Leaves Firm

Buchu leaves are very firm on spot as reports from the primary market indicate that leaves growing on the Crown lands are not being picked this year, this being the second successive year in which the crop has gone unharvested.

Oil juniper berries is easier The inside price has been lowered to $1.15.

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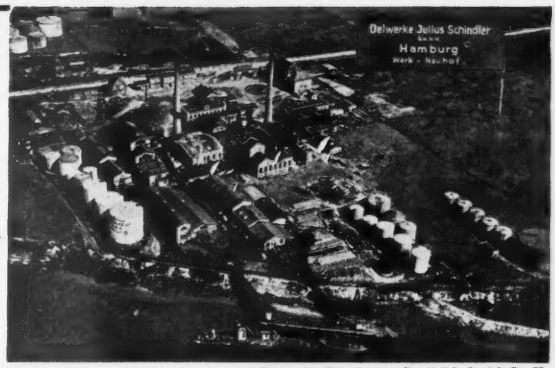

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Geranium Oil Higher

With practically no offerings of geranium oil coming out of the primary market the position here has taken on a very firm aspect. Bourbon oil is slightly higher at from $4.25 to $4.75 per pound. Turkish is firm to strong but without price change. Distribution to manufacturing consumers continues moderate.

The area under cultivation to geranium in Algeria for geranium oil extraction was reported by the Bulletin of the Imperial Institute to have been reduced from 5,000 hectares in 1926-1928 to 2,000 hectares in 1931. Production of the oil was estimated roughly to have averaged about 120 tons per year during the period 1926-1928 and 30 tons and 25 tons in 1930 and 1931, respectively. It was stated that old geranium plantations were being replaced to some extent by vineyards because they were more profitable.

Citronella Higher

With shippers of citronella oil offering only on a sterling basis the spot market prices have been advanced. Ceylon oil in drums is quoted at 37c per pound and Java at 47c. A sharp increase in inquiry was noted.

It is understood that the Turkish Government is considering the establishment of quality standards for rose oil with a view of promoting export trade in that commodity.

Lime Oil Advances

An increase in trading and the uncertainty regarding the replacement situation resulted in higher lime oil prices. Distilled oil is up 25c per pound to the basis of from $6.75 to $7.25 per pound as to quality of oil desired.

Expressed oil remained unchanged.

Spearmint prices are quite firm on spot. Prices ranged from 95c to $1.00 per pound, local dealers are taking a firm stand on the market in view of the unsettled conditions generally.

Oil caraway was advanced to the basis of from $1.40 to $1.50 per pound. Those with oil recently offered at low prices withdrew the attractive limits when replacements for the future became uncertain as far as costs were concerned.

Unofficial estimates indicate an increase in Argentine casein exports of 22 per cent. in 1932, rising to a total of 17,668,766 kilos compared with 14,454,752 kilos in the preceding year.

United States imports, however, showed a very sharp decline. In 1931 1,352,910 kilos were shipped here as compared to but 318,780 kilos in 1932.

Eucalyptus Oil Strong

The easier tendency in eucalyptus oil established during the early part of the month was eliminated by the currency situation. When it became impossible to place orders direct in the primary market save on a sterling basis this article took a position of potential strength.

The United States imported 202,239 pounds of eucalyptus oil in 1932 valued at $22,347 as compared with 306,000 pounds worth $65,000 in 1931. The 1932 imports were received from the following countries: Australia, 116,130 pounds, $13,830; Japan 52,000 pounds, $4,383; British Oceania, 32,840 pounds, $3,965; Spain, 441 pounds, $69; New Zealand, 427 pounds, $59; Chile, 401 pounds, $41.

Clove Oil Up

Clove oil advanced sharply on the spot market with leading factors quoting from 85c to 90c per pound in cans. The market is characterized by a substantial absence of quotations. Inability of distillers to place future orders for raw material played a large part in strengthening the market.

Prices have been advanced on oil cassia in line with the possible rise in replacement costs. Quotations became 85c to 90c per pound with the tendency upward. Through the inability to trade freely with the producing countries a fair portion of surplus stocks have been taken out of the spot market.

A good deal of buying developed in sweet almond oil. Prices worked up to from 42c to 46c per pound as to quantity and seller. Uncertainty regarding the replacement position made for a strong market.

Cayenne bois de rose continues the firm trend established some time back with the difficulty in securing replacements lending support to this position. From $1.90 to $2.10 is generally asked. Brazilian oil is without feature.

Cascara Bark Strong

Cascara Sagrada is in a strong statistical position, reflecting conditions on the Pacific coast, where unsold stocks held by collectors are limited. The outlook is for continued strength in this item.

During the past month agar agar has declined to new low levels. Number 1 grade is now offered at from 40c to 43c per pound and number two at from 35c to 38c per pound. Consumption has been poor.

With further shipments from Japan shut off by the ending of exchange operations, however, the market has taken on a stronger aspect, with holders taking a firmer view of the market. No further cutting is noted and the tendency is to ask slightly higher prices.

Crocodile, Ostrich Oil!

A firm located in Alexandria, Egypt, is offering for export in addition to turtle oil, crocodile and ostrich oils. It is claimed that these oils may be employed for the same purposes as turtle oil. Accredited American firms may secure the name of this firm by addressing the Chemical Division. (Commercial Attache Charles S. Dickerson, Jr., Cairo). Department of Commerce report.

Although trading in the mercurial group continues along routine lines the situation is being closely watched in view of the sharply higher prices for raw material. The recent advance in mercury has added materially to the strength in this group and is said to have brought closer to hand the time when an advance in quotations may be forced by the increase in production costs.

Tannic acid, fluffy was reduced to the basis of 80c to 83c per pound as to quantity. Powder was offered at from 70c to 75c per pound. The movement was the result of competition that developed parallel with decreased consumption. Prices are now steady at the lower level and a firmer market is expected to develop.

The advance in raw material placed oil ginger in a stronger statistical position. Prices ranged from $3.25 to $3.40 per pound as to seller and quantity.

OBITUARIES

(*Continued from page 256*)

Robert J. Seabury

Robert J. Seabury, for almost forty years in charge of the foreign business of H. K. Wampole & Co., New York, died March 6, aged 80. He was born January 19, 1853, the youngest of the five members of the Seabury family, the oldest of whom was the late George J. Seabury. About sixty years ago, Robert Seabury became connected with the foreign trade department of Seabury & Johnson. In 1892 he engaged in business on his own account and a little later became connected with Wampole company with whose foreign department he was connected until his death.

Vincent S. Wrenn

Vincent S. Wrenn, bacteriologist associated for several years with E. R. Squibb & Sons, died at his home in Brooklyn, N. Y., March 2.

George W. Kuchler

George W. Kuchler, former manager of the peroxygen sales department of the Roessler & Hasslacher Chemical Co., died unexpectedly February 9 in Houston, Texas.

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Syracuse, New York Est. 1855

SPERMACETI CERESINE
GLYCERINE STEARIC ACID RED OIL

Patents

UNITED STATES PATENTS

Pyridine Pharmaceuticals

These are basic ethers of pyridine series obtained by causing reactive esters of amino-alcohols to act on hydroxy-pyridines, or their substitution products. Then again amino-alcohols may be caused to react with halogenated alkoxy-pyridines or their substitution products. Reactions are carried out in presence of reagent which combines with acids. Examples are 2-diethylamino-ethoxypyridine, 2-diethylaminoethoxy-3-pyridine-carboxylic acid phenetidide, etc. Society of Chemical Industry in Basel, Basel, Switzerland. U. S. P. No. 1,881,236, filed July 28, 1930.

Vaginal Suppository

Consists of solid, homogeneous mass of dry comminuted uniformly mixed ingredients, including silver protein, a granulated effervescent agent comprising sodium bicarbonate and citric acid. Suppository becomes effervescent immediately upon exposure to moisture and reacts with vaginal discharge which involves new method of treating vaginal troubles. Composition is one-twentieth grain menthol, one grain mild silver protein, one-twentieth grain eucalyptol, one-tenth grain rose geranium, 17 grains sodium carbonate, nine grains citric acid, seven grains of boric acid and one grain acacia in each 35 grains of suppository. Gilbert F. Fitzgerald Milwaukee, Wis. U. S. P. No. 1,878,766, filed November 26, 1928.

Salve Base

Salve base in emulsified form contains following:—9 to 12 parts stearic acid, 6 to 8 parts coconut oil, 6 to 8 parts paraffin wax, 0.15 to 0.2 part zinc stearate, 0.8 to 3 parts ethyl para-aminobenzoate, 5.5 to 7.5 parts glycerin, 0.8 to 1.1 parts borax, 0.3 to 0.4 part ammonia and 56 to 75 parts water. Bennett-Mack Corp., Douglaston, N. Y. U. S. P. No. 1,888,601, filed March 7, 1930.

Antimony Glucosaminates

Complex antimony glucosaminates are new therapeutic agents prepared by interaction of glucosaminic acid with antimony hydroxides. In dry state they are white, non-hygroscopic powders, easily soluble in water with acid reaction. They yield stable solutions which can be boiled without decomposition taking place. Chemical Works formerly Sandoz, Basel, Switzerland. U. S. P. No. 1,888,187, filed November 6, 1931.

Concentration of Vitamins

Vitamin concentrate is made by treating crude vitamin B extract with glacial acetic acid. Acetone is added as diluent to form mixed solvent capable of dissolving vitamin and incapable of dissolving some impurities in crude extract. Vitamin solution is removed from solid impurities and acetic acid and acetone volatilized at temperature not destructive of vitamin. Residue is suspended in water, hydrogen ion concentration adjusted to permit selective adsorption of vitamin by adsorbent carbon. Carbon, which contains vitamin, is separated from liquid. Vitamin is washed from carbon first with hydrochloric acid and then with alcohol. Two wash liquors are combined and liquid evaporated from vitamin. Barnett Sure, Fayetteville, Ark. U. S. P. No. 1,889,427, filed March 19, 1930.

N-Acyl Aromatic Amines

In making a N-acyl aromatic amine such as acetanilide, an aromatic amine such as aniline having acylable hydrogen attached to nitrogen atom, is heated to boiling point and there is added an aliphatic carboxylic acid like acetic acid during ensuing reaction. Operations are conducted under substantially non-oxidizing conditions and above 110° C. Assigned to Dow Chemical Co. U. S. P. 1,878,969. Filed May 20, 1929.

Hydrated Alkali Metal Phenyl Phenate

A liquid mixture of salt like sodium or potassium o-phenyl phenate with water is prepared in any proportion within composition range entirely solidifiable by cooling without separation of mother liquor, and mixture is cooled to effect solidification. Assigned Dow Chemical Co. U. S. P. 1,878,082, filed December 17, 1930.

Making Benzoic Acid

Chlorinate toluene, fractionate product to obtain substantially pure benzotrichloride, treat latter with equimolecular proportion of water in presence of ferric chloride, fractionally distill and subject benzoyl chloride fraction to boiling water. Assigned Dow Chemical Co. U. S. P. No. 1,878,462, filed October 30, 1926.

Alkylated Amino-Acridinium Compounds

Mix 3, 6-diamino acridine with methyl ester of toluene sulfonic acid and heat mixture to about 95° C. for 12 hours. Assigned Winthrop Chemical Co. U.S.P. No. 1,877,985, filed February 8, 1930.

Closure

Closure having internal and external member engaged by threads, disc-shaped member interposed between internal and external members, members and disc being provided with opening disaligned when closure is in closed position, disc being provided with depending lug and internal member being provided with slot to engage lug, disc also having cutaway portion and external portion having internally projection to engage cutaway portion. Movement of external part will align openings and allow removal of contents. R. P. Perkins, Baltimore, Md. U. S. P. No. 1,878,599, filed August 28, 1930.

Pyrazole Derivatives

New compounds with valuable pharmacological properties having probable general formula: $R_3C{:}R_2C.CR_1{:}N.NR$, where R is hydrogen, methyl, alkylaminoalkyl, phenyl or phenylaklyl; R_1 and R_3 mean alkyl groups containing at least two carbon atoms; R_2 represents hydrogen or an alkyl group. Assigned Winthrop Chemical Co. U. S. P. No. 1,879,210, filed April 15, 1929.

Suppressing Micro-Organisms

Use compound containing radical of halogenated phenol and compound containing radical of aromatic carboxylic acid. Assigned I. G. U. S. P. No. 1,879,-351, filed November 12, 1929.

Closure

Metal closure comprising inner and outer caps telescoped one within other, each cap including circular top and depending flange portions, and means formed on flange of inner cap to provide part of connection between closure and container to be sealed, one of flanges having preformed ribs extending transversely and operating to hold cap against relative rotation. Assigned The Closure Service Co. U. S. P. No. 1,879,082, filed Nov. 3, 1930.

Double Compounds of Acridine Series

Double compounds of acridines and acridiniums joined by acid, in which red crystals formed are more soluble in water than either of their components and are valuable therapeutic products, especially as antiseptics. Assigned Winthrop Chemical Co. U. S. P. No. 1,879,539, filed December 9, 1929.

Lipstick Case

Combination of frame, mirror mounted on frame, wire mounted on frame, lipstick container having loop about wire to slide on it. A. E. Foster, Wilkes-Barre, Pa. U. S. P. No. 1,879,846, filed Feb. 17, 1932.

Closure for Metal Containers

Receptacle having cylindrical neck provided with closure having discharge opening in end of neck eccentrically arranged in relation to longitudinal axis of neck and neck also having lateral projection, spring open ring embracing neck, spring arm extending from ring and having closure at free end bearing on neck closure and arranged to cover and uncover opening when open ring is partly turned on neck. E. Schwaller, Bern, Switzerland. Assigned Psi A. G. U. S. P. No. 1,879,914, filed June 17, 1930.

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Vaginal Suppositories

Effervescent suppositories comprise solid homogeneous mass of dry mixed ingredients, including silver protein, sodium bicarbonate and citric acid. G. F. Fitzgerald. U. S. P. No. 1,878,766, filed Nov. 26, 1928.

Vermicide Containing Iodine

Treatment of "semi-solid buttermilk" with iodine in colloidal suspension forms product suitable for administration to animals to kill nematode parasites in gastro-intestinal tract. Assigned Merck & Co. U. S. P. No. 1,879,601, filed March 13, 1926.

Concealing Skin Blemishes

Zinc powder is mixed with glycerine and water to form thick opaque liquid mixture suitable for application with brush. L. O'Leary. U. S. P. No. 1,877,952, filed Dec. 31, 1930.

Cleaning Finger Nails

A glycol, glycol ether or aliphatic hydroxy ester such as ethyl lactate or hydroxybutyrate, boiling between 100 and 200° C., is used with volatile carrier fluid like alcohol. Assigned Ellis-Foster Co. U. S. P. No. 1,878,102.

Finger Nail Glossifier

Includes half-second nitrocellulose, stable perfume oil, dye, dissolved in solvent free from "banana oil," alcohol and other solvents. Assigned Ellis-Foster Co. U. S. P. No. 1,878,103, filed July 16, 1928.

Enameling Finger Nails

Nitrocellulose of less than one-half second viscosity is dissolved in substantially anhydrous synthetic methanol. Assigned Ellis-Foster Co. U. S. P. No. 1,878,477, filed May 23, 1928.

Closure Cap

Combination with collapsible tube cap having discharge port, tube neck, threaded connection between tube and neck, valve seat in cap and annular valve formed from pliable material. C. M. Jones, Tulsa, Okla. U. S. P. No. 1,877,882, filed November 28, 1931.

Halogenated Benzoic Acid Derivatives

Corresponding halogen substituted toluenes are chlorinated, producing chiefly benzotrichloride. Purify latter by fractional distillation and react with equimolecular proportion of water in presence of ferric chloride Fractionally distill halogenated benzoyl chloride and hydrolyze. Assigned Dow Chemical Co. U.S.P. No. 1,878,463, filed April 6, 1929.

Hydroaromatic Carboxylic Acids

In production of a hydroaromatic carboxylic acid like m-hydroxyhexahydrobenzoic acid, metal salt of aromatic carboxylic acid like potassium m-hydroxybenzoate is treated in aqueous solution at 150-250° C. with hydrogen in presence of nickel catalyst. Assigned Schering Kahlbaum A. G. U. S. P. No. 1,877,991, filed January 3, 1931.

Alpha-P-Hydroxyphenyl-Beta-Methylaminopropanol

Therapeutic agent is obtained by hydrogenating compound of formula: $HOC_6H_4COCHCH_3(NCH_3CH_2(C_6H_5))$ dissolved in required quantity of N hydrochloric acid, in presence of nickel catalyst for one hour at 100° C. and 40 atmospheres pressure. Assigned Winthrop Chemical Co. U. S. P. No. 1,878,021, filed June 21, 1929.

Aromatic Hydroxy Compounds

For preparing compound like guaiacol, diazotized aromatic amino compound such as that from o-anisidine is hydrolyzed in solvent (like toluene) immiscible with water and solvent is used to extract reaction product, continuously, from reaction mixture. Vanillin and o-ethoxyphenol may be similarly formed. Assigned Monsanto Chemical Works. U. S. P. No. 1,878,061.

4-Amipopyridine

React on pyridine with thionyl halide such as thionyl chloride and heat with concentrated acqueous ammonia solution. Assigned Winthrop Chemical Co. U. S. P. No. 1,879,324, filed July 23, 1930.

5, 6-Dialkoxy-8-Aminoquinolines

In forming product like 5, 6-dimethoxy-8-aminoquinoline, 5-halo-6-alkoxy-8-nitroquinoline is heated with alcoholate of light metal, like sodium methylate, in presence of corresponding alcohol and nitro group of product is reduced to amino group (suitably with iron and acetic acid). Assigned Winthrop Chemical Co. U. S. P. No. 1,879,538, filed February 7, 1931.

Menthenes

In producing menthenes such as carvomenthene, liquid menthadiene having double bond outside nucleus, like dipentene, is treated at 140° C. or somewhat lower with hydrogen in presence of hydrogenation catalyst containing nickel, until one molecule of hydrogen is bound. Assigned Schering-Kahlbaum A. G. U.S.P. No. 1,879,767, filed November 11, 1929.

Organic Gold Complex Compounds

React upon sulfhydrylalbumose, which is degradation product of keratin substance and contains sulfhydryl groups, in presence of solvent with at most such quantity of gold salt soluble in solvent that coloration resulting from addition of gold salt just disappears, and neutralize reaction mixture. Assigned Winthrop Chemical Co. U. S. P. No. 1,879,505, filed April 24, 1931.

Products of Quinolines and Barbituric Acids

Nearly tasteless therapeutic compounds practically colorless, insoluble in water, having combined hypnotic or soporific and antipyretic and antispasmodic and antiepileptic properties are obtained by combination of equimolecular proportions of components such as phenylethylbarbituric acid and diethoxyquinoline or of 5, 5-cyclohexenylethylbarbituric acid and 6, 8-dimethoxyquinoline or the like. Assigned Winthrop Chemical Co. U. S. P. No. 1,879,389, filed February 26, 1929.

Salts of 1-Phenyl-2-Aminopropane

Hydrochloride and sulfate of 1-phenyl-2-aminopropane are similar in therapeutic action to salts of ephedrine. G. A. Alles, Monterey Park, Calif. U. S. P. No. 1,879,003, filed Sept. 2, 1930.

Vitamin Concentrates

Saponification process is described in which acetone is employed as selective solvent for vitamin material. Assigned E. R. Squibb & Sons. U. S. P. No. 1,879,734, filed September 18, 1928.

Vitamin Concentrate Tablets

Tablets containing vitamins from cod liver oil are provided with coatings of gelatin or other suitable coating material containing small proportion of antioxidant like hydroquinone. Latter reacts so rapidly with any oxygen penetrating envelope as to prevent deterioration of concentrate by oxidation. F. W. Nitardy, Brooklyn, N. Y., Assigned E. R. Squibb & Sons. U. S. P. No. 1,879,762, filed February 12, 1931.

Closure for Containers

Closure comprises neck on container having outlet, cap movable on neck, and cup-shaped element disposed in cap and arranged to engage exterior of neck for opening and closing outlet and securing cap against loss or displacement. A. M. Monarch, Brooklyn, N. Y. U. S. P. No. 1,880,022, filed September 30, 1930.

Closure for Collapsible Tubes

Combination of receptacle having tubular neck, conical valve member positioned within and adjacent to open end of neck, planular resilient disc having opening through which member normally extends, and means to secure marginal portion of disc to neck. C. P. Murdoch, Lansdale, Pa. U. S. P. No. 1,880,103, filed October 16, 1931.

GERMAN PATENTS

Derivatives of 1-Phenyl- or 1-Benzyl-3-Methylisoquinoline

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derivatives of this acid, with acid-condensing agent, to close ring. Firma E. Merck (O. Wolfes and A. Dobrowsky). G. P. No. 556,709, filed November 7, 1930.

Paraformaldehyde

Readily soluble paraformaldehyde is prepared by distilling aqueous formaldehyde solution with organic liquid forming low-boiling azeotropic mixture with water, (toluene or ethyl acetate) distillation being conducted that water is removed rapidly and completely as possible at lowest temperature. Deutsche Gold- und Silber-Scheideanstalt vorm. Roessler. G. P. No. 558,470, filed March 22, 1931.

Thymol

Condensation products from cresols and ketones described in G. P. 486,768 are heated in hydrogen and vapor carried along is led over hydrogenating catalyst. Thus, condensation product from m-cresol and acetone is heated in hydrogen at 300° C. and passed over nickel catalyst to give 65-70% yield of thymol. Schering-Kahlbaum A. G. G. P. No. 556,162, filed January 1, 1929. Addition to 554,646.

Synthetic Drugs

Double salt of d-pseudococaine is prepared by treating that compound with equimolecular amounts of e-ephedrine and d-tartaric acid. Firma E. Merck. G. P. No. 556,734, filed April 11, 1931.

Solutions of Ergosterol

Stable aqueous colloidal solutions of irradiated ergosterol are obtained by using ergosterol irradiated in its dispersed phase and separated from ergosterol unchanged by irradiation. Firma E. Merck. G. P. No. 556,716, filed March 7, 1928.

Esters of Iodinated Alcohols

Sulfuric acid esters of iodinated alcohols are prepared by iodinating sulfuric acid esters or by treating iodinated alcohols with sulfonating agents. Products and salts are contrast media in X-ray diagnosis. Schering-Kahlbaum A. G. (W. Schoeller, E. Schwenk, H. G. Allardt and O. von Schickh). G. P. No. 557,248, filed June 14, 1930.

Pyrazolones

1-phenyl-2, 3-dimethyl-4-alkyl-5-pyrazolones, the alkyl group in 4-position having 3 carbon atoms, are prepared from corresponding 1-phenyl-3-methyl-4-alkylpyrazolones by usual methylation processes. F. Hoffmann-La Roche & Co. A. G. G. P. No. 558,473, filed October 10, 1931.

Benzoxazine Derivatives

4-aralkyl-3-keto-3, 4-dihydro-1, 4-benzoxazines and derivatives and substitution products are prepared by aralkylating 3-keto-3, 4-dihydro-1, 4-benzoxazine and derivatives and substitution products, or their alkali or alkaline earth salts. Thus mixture of 3-keto-3, 4-dihydro-1, 4-benzoxazine and potassium carbonate may be hated to 160° C. for six hours with benzyl chloride, giving 4-benzyl derivative. Products relieve cramp. F. Hoffmann-La Roche & Co. A. G. G. P. No. 557,111, filed April 18, 1931.

Physiologically Active Extracts

Method of G. P. 545,973 and 553,993 for producing extracts from male and female secretary organs is extended to other animal or vegetable materials, such as milk, blood, carrots, yeast, bone meal, cola nuts, etc. Soc. anon. L'Ind. Chim. Bale. G. P. No. 556,526, filed April 9, 1929. Addition to 545,973.

Preventing Growth of Tumors

Cortical part of suprarenal glands, completely freed from pulpy part, is extracted with water at 60-85° C. Extract is cooled and treated with alcohol and filtered. Filtrate is freed from alcohol and used to check growth of tumors. W. B. Coffey and J. D. Humber. G. P. No. 556,735, filed August 9, 1930.

Germicide

Nicotine vapor is used as germicide for closed rooms. Schering-Kahlbaum A. G. (H. Schotte and K. Gornitz). G. P. No. 556,933, filed Sept. 25, 1930.

Perfumes

Perfume compositions which develop sufficient pressure at atmospheric temerature to enable them to be sprayedp, comprise perfume and organic solvent in association with compound boiling below —5° C., e.g., methyl chloride. J. D. Riedel—E. de Haen A. G. (L. Hess). G. P. No. 557,259, filed February 1, 1931.

Depilatory Compositions

Depilatory compositions comprising alkaline earth sulfide are improved by addition of albumin, e.g., casein or salt thereof, or albumin degradation product of high molecular weight. Soluble thiocyanate, iodide, bromide or nitrate may be added. Halwit Laboratorium G.m.b.H. (R. Mulle). G. P. No. 550,140, filed April 29, 1931.

Organic Arsenic Compounds

3, 4-dihydroxyphenyl-1-arsenic acids are prepared by saponifying 4-hydroxy-3-phenylur-ethan-1-arsenic acid and derivatives and substitution products. Starting materials are prepared by reaction of 4-nitro-pyrocatechol carbonate with organic base to yield urethan, reducing nitro group, diazotizing and coupling with arsenious acid. I. G. (K. Streitwolf, A. Fehrle and H. Hilmer). G. P. No. 555,003, filed May 13, 1930.

Organic Arsenic Compounds

Aminoguaiacol arsenic acids are prepared by reducing nitroguaiacolarsenic acids, obtainable by known methods. Aminoguaiacolarsenic acids are slightly poisonous, and useful in diseases due to protozoa. They can be reduced to corresponding arsine oxides, arsenes and arsenobenzenes. I. G. (K. Streitwolf, A. Fehrle, and H. Hilmer). G. P. No. 555,241, filed January 11, 1931.

Phenoxyacetic Acid Derivatives

Substitution products of phenoxyacetic acid are prepared by action of alkali haloacetates on alkali salts of monoalkoxymethyl ethers of pyrocatechol or substitution products, particularly on alkali salts of pyrocatechol derivatives obtainable from safrole or dihydrosafrole. Acids are of therapeutic value, and emulsifying agents. J. D. Riedel-E. de Haen A. G. G. P. No. 555,408, filed January 12, 1928.

Synthetic Drug

Compound of diethylbarbituric acid and 1-phenyl-2, 3-dimethyl-4-dimethylamino-5-pyrazolone is prepared by dissolving equimolecular amounts of components in organic solvent below 100° C. and evaporating solution in vacuo at atmospheric temperature. Product is anodyne and soporific. Schering-Kahlbaum A. G. G. P. No. 554,158, filed December 13, 1925.

Synthetic Drugs

Products having property of retarding blood-coagulation are prepared by introducing salt-forming groups, e. g., carboxyl, sulfonic, diethylaminoethyl, into polymerization products of unsaturated phenols or their derivatives. F. Hoffmann-LaRoche & Co. A.G. G. P. No. 555,170, filed November 5, 1929.

Shale Oil Derivatives

Products of improved therapeutic and disinfectant properties are obtained when shale oil and derivatives, e.g., shale oil sulfonic acids, are iodized by treatment with solution of iodine. G. Heckert. G. P. No 554,294, filed March 1, 1927.

Hormone

Male sexual hormone is recovered from male urine by treating latter with solid fatty acid or ester or solid higher alcohol. Hot alcoholic solution of fatty acid, etc., is added to urine, and solid crust formed after cooling is removed and extracted. Chem. u. Pharmazeutische Fabrikation G. Henning. G. P. No. 554,092, filed November 5, 1930.

Vanillin

Vegetable fiber or lignin is oxidized below 90° C., preferably between 10 and 50° C. Amount of oxidizing agent should correspond to amount of vanillin, and product may be hydrolyzed after oxidation. Thus, wood meal is treated with glacial acetic acid and ozone. Product is hydrolyzed to give vanillin. H. Pauly and K. Feuerstein. G. P. No. 552,887, filed September 28, 1928.

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Organic Arsenic Compounds

Readily soluble salts of acylamino hydroxybenzenarsenic acids suitable for injection are prepared by dissolving acids in twice equivalent amount of sodium hydroxide or carbonate solution and precipitating salts by addition of alcohol, acetone, etc. I. G. (L. Genda). G. P. No. 556,368, filed October 10, 1928.

Salts of Diaminoazobenzene

Salt of 2, 4-diaminoazobenzene is obtained by action of aqueous solution of two molecules of hydriodic acid on solution of one molecule of 2, 4-diaminoazobenzene in chloroform. Chem.-Pharm. Fabrik Med. Hubold & Bartsch. G. P. No. 552,922, filed September 15, 1931.

Organic Arsenic Compounds

Catechol arsenic acids are prepared by oxidizing 3,3′, 4, 4′-tetrahydroxyarsenobenzene or derivzatives or substitution products. I. G. (K. Streitwolf, A. Fehrle, and H. Hilmer). G. P. No. 556,458, filed May 27, 1930.

Sterols from Yeast

Sterols are obtained by heating aqueous-alkaline solutions of yeast in open vessels. F. Hoffmann-La Roche & Co. A. G. G. P. No. 553,915, filed September 1, 1928.

Physiologically Active Extracts

Method of 545,973 for obtaining extracts from female organs is used for male organs. Example describes preparation of extract having tonic effect on nervous system by treating ox testicles with sodium sulfate and carbon dioxide and extracting with alcohol. S. A. Ind. Chim. Bale. G. P. No. 553,993, filed September 18, 1928. Addition to 545,973.

Dentifrices

Benzyl alcohol or benzyl ester of lower fatty acid is used as constituent of dentifrices. I. G. (W. Ludwig and O. Schaumann). G. P. No. 556,190, filed July 22, 1927.

Cosmetic

Skin of freshly-killed warm-blooded animal is extracted with ether or other lipoid solvent, and evaporated extract is emulsified in water or incorporated into salve or cream. Tokalon S. A. G. P. No. 556,488, filed June 19, 1930.

Disinfectant

Disinfectant is made up by adding silver chloride-silica gel to usual powder base, e.g., talc, rice-starch powder, etc. Chem. Fabr. v. Heyden A. G. (R. Zellman). G. P. No. 553,842, filed February 28, 1926.

Mercurized Benzene Derivatives

Method of 548,902 is modified by allowing benzene and mercuric acetate to react in open vessels at ordinary temperatures in presence of glacial acetic acid. I. G. (H. Gunzler and A. More). G. P. No. 553,280, filed October 31, 1928. Addition to 548,902.

Asymmetric Arseno Compounds

Arsenophenoxyacetic acids or arylarsenic acits containing nitrogenous heterocyclic ring, or other therapeutically active arylarsenic acids are converted to asymmetric arseno compounds by reduction. Preparations are used for intravenous, subcutaneous or intramuscular injections and have strong stimulatory action. I. G. (K. Streitwolf, A. Fehrle and W. Herrmann). G. P. No. 554,951, filed July 23, 1930.

Complex Gold Compounds

Oxazole or thiazole compounds containing SH group but no sulfonic acid groups, are made to react with gold salts, and resulting gold compound is converted to its salt. Compounds are chemotherapeutically active. I. G. (C. L. Lauten-Schlager, M. Bockmuhl, and P. Fritzsche). G. P. No. 554,234, filed April 3, 1925. Addition to 537,897.

Readily Decomposed Tablets

These, for medicinal purposes, are prepared from drugs, etc., with gelatin solution, treated with formaldehyde and dried. Godecke & Co. Chem. Fabrik A. G. G. P. No. 555,718, filed February 5, 1931.

Disinfectant

Disinfectant and preservative contains bishydroxyarylamines or substitution products, or salts. Substances destroy staphylococcus, etc. I. G. (F. Muth and G. Wesenberg). G. P. No. 554,817, filed May 10, 1930.

FRENCH PATENTS

Salts of Arylsulfonic Chloroamides

Disinfecting and other properties of salts of arylsulfonic chloroamides are improved by addition of substance increasing surface tension, e.g., sodium isopropylnaphthalenesulfonate. Chemische Fabrik von Heyden A. G. Fr. P. No. 731,395, filed Feb. 15, 1932.

Sulfoichthyolates

Crude sulfoichthyolates are purified by dialysis after dilution to regulate factors of viscosity and speed of diffusion. Dialyzed solution is concentrated. Soc. Nouv. Mines Saint-Champ. Fr. P. No. 729,936, filed March 26, 1931.

Dentifrices

Evaporated juices of plants of acid character such as tomatoes or bilberries are used in dentifrices. S. G. Gulbransen. Fr. P. No. 730,168, filed January 19, 1932.

Cosmetics

Colloidal hydro-alcoholic solutions of phenyldimethylpyrazolone of such concentration that mass solidifies at ordinary temperatures are used for cosmetic purposes. H. Jahard. Fr. P. No. 729,982, filed April 1, 1932.

Cosmetics

Liquid cosmetics containing O or CO, dissolved therein. E. Laszlo. Fr. P. No. 732,935, filed March 10, 1932.

Toilet Powders

Lycopodium and lanolin are added to to toilet powder to give adherence. Tokalon (Soc. anon.). Fr. P. No. 730,512, filed January 26, 1932.

Effervescing Salt Mixture

Coarsely crystallized acids or acid salts are mixed with carbonates or bicarbonates of alkali or alkaline earth metals and made up into tablets. Wessel & Co. G.m.b.H. G. P. No. 553,885, filed March 20, 1931.

Products from Sugar and Lipoids

Therapeutically active products are obtained by fermenting sugar solutions in presence of added pure lipoids. Thus, solution of cholesterol and lecithin is added to solution of bile silicate and sugar. Solution is inoculated with tea fungus. After week's fermentation, solution is filtered and evaporated to give dry preparation. I. G. G. P. No. 552,931, filed Sept. 21, 1929.

MISCELLANEOUS

Fixatives for Perfumes

For this purpose are used ether-salts which are formed between cyclic alcohols and fatty acids of high molecular weight of the aliphatic, aromatic, hydrocyclic and heterocyclic series. These products possess no odor and are good solvents for perfumes. Examples are cyclobenzyl oleate, methyl clobenzyl palmitate, borneol and fenchyl esters of coconut oil fatty acids or palm oil fatty acids. Products boil above 200° C. Certain are solid and can be used in making dry perfumes. Products are hard to saponify and can therefore be used for perfuming toilet soaps without fear of decomposition by alkali. About 2% is required in ordinary practice to make good product. Very persistent perfume is obtained by combining 150 parts of terpineol ester of hydrogenated coconut oil fatty acids and 550 parts of perfume composition. Borneol ester of purified naphthenic acid may also be used. Deutsche Hydrierwerk A. G., Berlin, Germany. French Patent No. 727,480, filed October 6, 1931.

Dibrominated Propylallylbarbituric Acid

Two atoms of bromine are added to propylallylbarbituric acid in chloroform solution. Thus a hypnotic of great power is obtained with wide limit between effective and fatal dose. Thus diallylbarbituric acid is partially brominated so that only one of unsaturated allyl groups

(*Continued on page 287*)

Abstracts

Arsenic Pharmaceuticals

Fowler's solution is analyzed for arsenic content; 0.007 per cent. of arsenic pentoxide can be detected by 1.5 cc. of 30% aqueous acetic acid,—each addition of acetic acid being half cc. making three in all,—to mixture of 0.5 cc. of 5% aqueous solution of silver nitrate and 3 cc. of Fowler's solution. Detection of 0.0005% of arsenic trisulfide, as Na_3AsS_3, is possible by treating 2 cc. Fowler's solution with 0.5 cc. 25% nitric acid, followed by 3 to 6 drops 5% aqueous solution silver nitrate. Detection of arsenic trisulfide in H_2AsO_4 is sensitive to 0.01%, when 0.5 cc. 5% solution of silver nitrate is added to mixture of 1.5 cc. 25% nitric acid and 2 cc. solution of 1 gram of acid in 10 grams 10% ammonia solution and 10 grams water. K. Brand and E. Rosenkranz. Pharmazeutische Zentralhalle, 1932, volume 73, pages 641 to 649 and 659 to 660.

Determining Novocaine and Benzocaine

In case of novocaine, aqueous solution of the hydrochloride, weighing 0.03 to 0.05 gram, is treated with 2.5 normal solution of hydrochloric acid (20 cc. being used), 0.1 normal solution of potassium bromate (15 to 25 cc). and 1 gram of potassium bromide. After 15 minutes, tenth normal solution of arsenic trioxide is added, 15 to 30 cc. being used, solution being agitated until it becomes colorless. It is then titrated with tenth normal solution of potassium bromate with methyl red as indicator, until red color disappears. In case of benzocaine, half gram is dissolved in minimum quantity of 0.2 normal solution of hydrochloric acid and diluted to 100 cc. Ten cc. are treated with tenth normal solution of potassium bromate (25 cc.) and 25 cc. of 2.5 normal hydrochloric acid. Black determination on potassium bromate and arsenic trioxide is essential. Y. Fiyalkov and M. Yampolska. Farm Zhur., 1932, pages 13 to 16.

Determining Morphine

Sample is first acidified in usual manner and then extracted with ethyl alcohol. Alcohol is evaporated and water and hydrochloric acid added. Mixture is extracted with ether until washings are free from color. Sand is added to residual mass and mixture extracted with chloroform. Chloroform extract is neutralized and 5 cc. of 4% solution of sodium bicarbonate added for each 20 cc. of extract. Mixture of isopropyl alcohol (one part), 3 parts chloroform and 5 cc. of 4% solution of sodium carbonate (10 H_2O) is added. Entire mass is vigorously shaken and allowed to separate into layers. Lower layer is removed. It is then extracted 4 times, evaporated and titrated. A. I. Portnov Farm. Zhur. Russia, 1932, pages 292 to 296.

Theobromine in Cocoa

Cocoa bean is finely ground and 8 grams used as sample. It is extracted with petroleum ether. Residue is treated with dilute sulfuric acid and warmed for 20 minutes. Thereafter suspension of 5 to 10 grams magnesium oxide in water is added and mixture heated until it becomes pasty. It is dissolved in 100 cc. chloroform with 10% alcohol; 75 cc. are filtered and evaporated until all alcohol is removed. Then residue is washed with petroleum ether and alcohol, transferred to filter and weighed after being dried. To test purity of theobromine, volumetric test is made by dissolving 0.2 gram of product in 20 cc. of 5% aqueous ammonia and concentrating solution to volume of 5 cc. with addition of 25 cc. tenth normal silver nitrate. Concentrated solution is acidified with 30% acetic acid, filtered, washed and titrated with filter. One cc. of 0.1 normal silver nitrate is equivalent to 0.0180 gram of theobromine. N. S. Goryainova. Khim. Farm. Prom., volume 6, 1932.

Separation of Santonin

Five grams of flowers are triturated with one gram of lime and boiled with water (250 cc.). Filtrate is acidified with hydrochloric acid, cooled, extracted with chloroform, rendered alkaline with 4% solution of sodium hydroxide and again extracted with chloroform. Extract is filtered through animal charcoal and evaporated. Residue is dissolved in minimum quantity of alcohol, treated with boiling water (100 cc.), evaporated to 50%, allowed to crystallize and filtered. Solid is transferred with chloroform to tared flask, dried and weighed. P. S. Massagetov. Khim. Farm. Prom., 1932, numbers 2 and 3, pages 68 to 71.

Methanol in Alcoholic Preparations

Preparation is first treated with sulfuric acid in order to fix ammonia and decompos soaps. Free acids are also fixed by treatment with alkali. Essential oils are made insoluble with salt. Camphor in preparation is eliminated by addition of water and filtering. After all these volatile products have been separated, preparation is distilled. Alcohol is determined by official method. Generally 5 cc. of distillate are sufficient. Thus sample is mixed with 35 cc. of water; then to 5 cc. of mixture are added with shaking two drops of 25% phosphoric acid and 25 drops of 2% permanganate of potash solution. Then mixture is allowed to stand for 15 minutes. Two drops of 10% solution of oxalic acid and 5 cc. of dilute sulfuric acid are added. Mixture is agitated and set aside until it becomes perfectly clear and colorless. If yellowish color persists, it is necessary to add 1 or 2 drops of aqueous solution of oxalic acid. Liquid then becomes colorless. Five cc. of colorless solution of fuchsin containing sulfurous acid are added and in presence of methanol, bluish-violet color is formed within 15 minutes. Fuchsin solution is prepared on water bath with sodium sulfite. As control of methanol test, 1 drop of methanol is added to distillate, which is treated in same manner. Suspected presence of formaldehyde in original preparation may be proved by omission of oxidation. H. Patzsch. Pharmazeutische Zeitung, 1932, volume 77, pages 1191 to 1192.

Strophantus Seeds

Sulfuric acid test is important in identification of strophantus. Color test is made more delicate by using mixture of 3 parts sulfuric acid and 1 part glycerin. This solution remains unchanged for long time and produces very intense color. Cells of strophantus are colored green in kombe variety, less often in hispidus variety and rarely in gratus variety. Clear color is not obtained when amorphous, difficultly crystallizable glucosides are present. Presence of glucosides is clearly indicated when strophantus is tested with mixture of equal parts of 10% sodium hydroxide or ammonia and glycerin. Cells are rapidly colored an intense yellow. This yellow color is due to presence of cymarigenic glucoside in seeds and also of cymarigenic rhamnoside. In case of seeds of kombe and hipidus varieties, in which glucoside predominates, coloration is result of condensation of cymarine with dissociation product of glucose or fructose (oxymethylfurfurol). In seeds of gratus variety in which rhamnoside predominates, this coloration is result of condensation of cymarine with dissociation product of rhamnose (methylfurfurol). According to whether glucoside or rhamnoside predominates in cells, they are colored either green or red. Dr. M. Wagenaar Pharmaceutisch Weekblad, November 26, 1932.

Color Reaction for Cantharidine

Solution of definite quantity of substance to be analyzed is prepared in 1 cc. of concentrated nitric acid. Mixture is allowed to remain for exactly 2 minutes while being agitated constantly. Then it is diluted with 5 cc. of distilled water. After allowing to remain quiescent for one hour it is compared with standard colors in colorimeter. Comparison is made with color obtained under like conditions and at same time as first test, second color being produced by treating solution of crystalline vanillin with concentrated nitric acid. Effect of vanillin on sample containing cantharidine is reflected in color produced by addition of nitric acid. Denise Listray. Journal de Pharmacie de Belgique, volume 15, 1933, 1-3.

Coumarin

Manufacture is described and many uses are given. Details are given of occurrence of coumarin in plants. Quite large propor-

tions are found in the natural state in herb liatrix odoratissima, indigent to Virginia, Florida and Carloinas; also in vanilla bean and in dipterix eboensis. A. Rolet, Parf. Moderne, 1932, volume 26, pages 25 to 31.

Pine Needle Extracts

These extracts are sometimes adulterated with sulfite cellulose waste liquor. Determination of sulfur and ash contents will show whether or not pine needle extract has been adulterated. Sulfur and ash contents of sulfite cellulose waste liquor are 7.2 and 20.8% respectively and corresponding figures for pine needle extract are 0.65 and 7.3%. C. A. Rojahn and H. Filss. Pharmazeutische Zeitung, 1932, volume 77, pages 829 to 833.

Tests of Poppy Seeds

These tests were made on seeds of different stages of maturity, that is unripe, half-ripe and completely ripe. Oil content of seeds increases very rapidly up to point of semi-maturity, then more slowly point of complete maturity. Iodine number, which is 124.5 at start increases to 133. Morphine content of capsules increases at first until it attains maximum of 0.4% at semi-maturity and then decreases again. Presence of narcotine and other opium alkaloids can be definitely established. Seeds do not contain alkaloids. Leopold Fuchs. Pharmazeutische Monatshefte, 1932, number 10.

Oil of Artemisia Capillaris

Yield of oil from herb is 0.25%. Oil is brownish in color, has specific gravity of 0.9692 at 20° C, refractive index 1.5570, optical rotation—12.6° and saponification coefficient 3.68. Beta-pinene fraction was obtained at 162.5 to 165° C. at 760 mm. pressure. Second fraction was obtained at 129 to 130° C. at 5 mm. pressure. It is hydrocarbon of apparent constitution: $C_7H_5(C_6H_9)$. Riv. Ital. d. Essage, 1932, pages 237ff.

Decomposition of Calomel

Action of ammonia and certain organic bases on calomel has been studied. These chemicals including only primary amines decompose calomel in cold while secondary amines decompose it in hot. Anilin has particularly marked action, especially in hot. Ammonium chloride and amines react with calomel in hot or at ordinary temperatures. Pyridine, piperazine, quinoline, antipyrine and pyramidon decompose calomel. Atropine hydrochloride and quinine hydrochloride of alkaloids react with calomel, but not sulfates of these alkaloids. Morphine hydrochloride and pilocarpine decompose calomel; iikewise hydrastine hydrochloride, but not sulfate. Pilocarpine nitrate does not react with calomel. Cocaine hydrochloride novocaine and stovaine react in cold with mercurous chloride. Strychnine, veratrine, eserine and aconitine have marked action at ordinary temperature. Thus the bases and their hydrochlorides react with calomel, while sulfates and nitrates of same bases do not. Decomposition results in formation of mercury and bichloride of mercury. Alkalinity of reagent affects intensity of reaction, which increases in degree from ammonia to alkaloids passing through amines and pyridine. Decomposition of calomel in stomach and intestines and its ultimate elimination are discussed. R. Voyennet. Journal de Phamacie de Belgique, volume 14, No. 36.

Complexes of Diethylbarbituric Acid

Complexes of barbital with cobalt as central atom were prepared. This allowed explanation of chemistry of different coloration phenomena when barbital was made to react with cobalt chloride and basic substance such as ammonia or barium methylate. Quantity of ammonia used effects intensity of color. Traces of water cause disturbance in formation of color. Methylate of barium is preferred as reagent to ammonia, former giving fine blue color and latter less characteristic violet. Author also describes method for preparation of derivatives of barbital of type containing two atoms of barbital, one atom of copper and two atoms of base. Other metals are used, for copper can be readily replaced by zinc or cadmium and pyridine by quinoline. J. J. L. Zwikker. Pharmaceutisch Weekblad, 1932, number 35.

Lipo-Soluble Bismuth in Oils

Bismuth is determined in state of dioxide or sesquioxide in oily solutions. Method depends on evaporation, calcination and oxidation of bismuth. Great care is necessary to obtain accurate results. One to two gram sample is weighed out in crucible of definite size and must be heated over a small flame until the oil has entirely disappeared. Then porcelain crucible is heated to a dull red heat until carbon has been completely burnt up. Residue should be taken up with 1cc. of nitric acid and evaporated at 100° C. Too rapid evaporation of oil results in spattering and combustion of oil, which must never take place. Bismuth metal is volatile at bright red heat. F. Rithea. Journal de Pharmacie et de Chimie, 1932.

Atropine and Homatropine Solution

Study was made of decomposition of solutions of atropine and homatropine on sterilization by heat as contribution to injectional medicine. Extent of hydrolysis of solutions of atropine and homatropine has been determined by extracting solution with isopropyl alcohol and chloroform mixture in presence of sodium carbonate. Extract is shaken with tenth-normal hydrochloric acid, and dissolved alkaloid was determined by titrating excess acid. Original solution left after extraction is acidified, extracted 3 times with isopropyl alcohol and chloroform mixture, and evaporated. Residue of tropic or mandelic acid is titrated with tenth-normal sodium hydroxide. Results showed that 0.4% solution of atropine sulfate was only slightly (3.4%) hydrolyzed by sterilization at 120°C. for 20 minutes, provided that container was of alkali-free glass. In presence of phosphate buffer and at pH not greater than 6.0, up to 51% of atropine was hydrolyzed under same conditions. Similar solution of homatropine hydrobromide was less stable and could not be sterilized by heat even in solution without considerable decomposition. In presence of phosphate buffer and at pH 7.3, complete hydrolysis resulted on keeping at 120° C. for 20 minutes. S. A. Schou and P. B. Bjerregaard. Dansk Tidsskr. Farm., 1932, volume 6, pages 185 to 193.

Cineol in French Lavender Oil

Presence of alcohols, esters and like in French lavender oils makes usual orthocresol method unsuitable for determination of cineol in them. Thus linalyl acetate and terpinyl acetate with ester contents of 96.8 to 98.2% were analyzed and showed apparent cineol contents of 22.4 to 23.2%. Cineol content of 22.4% was found in fraction of French lavender oil, which boils between 108 and 135° C./20 mm. pressure. Actual content of cineol is much less than 5%. R. M. Reed. Perfumery and Essential Oil Record, 1932, volume 23, pages 340 to 341.

Narcotine and Vitamin C

Methylnornarcotine prepared from natural alkaloid will not crystalline and had no antiscorbutic action. Attempts to synthesize this substance by condensation of cotarnine and normeconine failed. Narcotine could not be isolated from unripe orange juice or potatoes. Ether extract of ripe orange juice was not antiscorbutic and extracted juice was as active as original material. Hexuronic acid concentrates prepared by method of Szent-Gyoergyi had definite antiscorbutic action. O. Dalmer and T. Moll. Zeitschrift fuer physiol. Chem., 1932, volume 209, pages 211 to 230.

Dyes and Dermatitis

A useful summary of published information concerning the toxic properties of dyestuffs, intermediates and decomposition products, and associated metals and other impurities when present in dyed furs and textile materials. Methods of testing are suggested. Particular attention is given to paraphenylenediamine. The extraction of the coloring matter with 0.1 per cent acetic acid containing sodium chloride is suitable for determining small quantities of the diamine extracted from furs, the sensitivity being 0.00005 gram of the diamine. It is not suitable for the examination of dyed

sheep skin because of the absorption of hypochlorous acid by substances other than the diamine, but the indamine reaction may be used colorimetrically. H. E. Cox, Journal of the Society of Dyers & Colorists, 1932, volume 48, pages 124 to 127.

Detecting Narcotic Drugs

Attention is called to non-specificity of chemical reactions for cannabis indica and derivatives. Extracts of anchusa tinctoria and mixed extracts prepared from thyme, pyrethrum, cloves, nutmeg, fennel, coriander, alkanet, cinnamon, licorice, absinthe, ginger, and cassia bark give all color reactions described by Beam and Caspari. H. Trolle. Ann. Falsif., 1932, volume 25, pages 273 to 280.

Paraffin Oil Emulsions

Mixture of gum tragacanth and acacia mucilage has been found to be particularly suitable for these emulsions. Thus 5 parts of finely pulverized gum tragacanth is rubbed with solution of 0.5 part solbrol in ten parts alcohol; then 150 parts glycerin and 304.5 parts lukewarm water are added and mixed in small proportions. Mixture remains 2 days with occasional stirring, and 30 parts of acacia mucilage are added and entire mass mixed with 500 parts liquid paraffin until white emulsion forms. Cooling to 5 to 10° C. facilitates formation of emulsions. When phenolphthalein has to be added, it is triturated with mucilage acacia and mixed with gum tragacanth. Christensen. Arch. f. Pharm. og Chemie, volume 88, pages 6ff.

Preservation of Ergot

If it is assumed that decomposition of drug is due to presence of lipases or alkaloidases, then ergot can be stabilized by removing these enzymes. Freshly-prepared, pulverulent rye is treated with petroleum ether to remove fats and oils, then strongly dried and filled into well-closed bottles and left for one year. It was found that under these conditions alkaloid content of powder was unchanged. On other hand other tests on same product stored for same length of time in non-pulverized state, lost about 21% of alkaloid. Pedersen. Norges Apotfor. Tidskrift, volume 39, pages 49ff.

Purgative in Rheum Officinale

This is called rheopurgarin and is not simple substance but mixture of 4 glucosides, namely chrysophagneine, rheochrysine, emodin glucoside and rhein glucoside. Furthermore, purgative action of mixture rheopurgarin is not equivalent of purgative action of entire drug. Siegrist. Pharm. Jour. volume 128, number 3,568.

Antipyrine in Amidopyrine

Detection of antipyrine in amidopyrine is best effected with nitrous-nitric acid. When this is added to a solution, violet ring is formed between two layers and acid is colored greenish-yellow. In presence of antipyrine brownish-yellow zone appears under violet ring and after 5 minutes (2% antipyrine) green ring due to nitrosoantipyrine is formed between violet and brown. Reaction is sensitive to 1% antipyrine. P. Duquenois. Journal de Pharmacie et de Chimie, 1932, series viii, volume 16, pages 28 to 31.

Assay of Santonin Drugs

Various methods for determination of santonin content of drugs, including various modified colorimetric methods were examined. Good results were obtained by gravimetric method in which drug is first treated to remove fat content by refluxing with light petroleum, saturated with santonin and then extracting with alcohol. Extract is diluted, boiled with basic lead acetate and filtered. Santonin crystallizes out when solution stands, and is collected on tared filter, washed with 5% ammonia and with water. It is dried at 100° C., and weighed. For each 10 grams of dilute alcohol (15% by volume) used, 0.006 gram is added to weight of santonin. H. M. Burlage and A. C. Smith. Journal Assoc. Off. Agri. Chem., volume 15, pages 491 to 499.

Modern Quinetum

Composition of modern quinetum is studied. Control analyses of artificial mixture of quinine, cinchonidine, cinchonine, and quinidine of known composition showed that such determinations have been made reliable. Causes of previous errors have been confirmed and largely eliminated. Results of analysis by improved methods indicate that modern quinetum is of variable composition which differs in general from that of original preparations and tends towards standards specified for "totaquina" by Malarial Commission of League of Nations. J. A. Goodson and T. A. Henry. Quarterly Journal of Pharmacy, volume 5, 161-171.

Ash Determination in Drugs

Article concerned with examination of accuracy of ash figures for drugs in German pharmacopoea lists methods generally used and points out deficiencies. Many species of each of 100 drugs were analyzed. Both upper and lower figures for ash limits should be stated together with average figures. Importance of ash determination and also of microscopic examination of drug as well as frequent and efficient screening of stored drugs is emphasized. L. W. Winkler. Pharmazeutische Zentralhalle, volume 73, pages 593ff.

Fluid Extracts

Capillary analytical methods are used in method for fluid extracts. Capillary examination of extracts of varying origin by methods used commonly, particularly when fluid extracts were highly diluted, gave varying capillary pictures, especially in upper zones. This is exemplified by examination of fluid extracts of hydrastis, calumba, viburnum, cinchona, and opium. H. Schmidt-Hebbel. Pharmazeutische Zentralhalle, volume 73, pages 595 to 598.

Coloring Matter in Cochineal

Cochineal from which fat has been removed is more soluble in acids and alkalies than in water due to presence of 50% gelatinizing agent, which can be obtained as black powder insoluble in water, but soluble in acids to an orange color and in alkalies to purple. This indicator undergoes sharp color changes at pH of 4 and 10, and imparts to cochineal tinctures their dark color. S. Taylor. Pharmazeutical Journal, volume 129, 256.

Adulteration of Saffron

Rapid method of detecting adulteration of saffron is afforded in capillary analysis. Five grams of drug is extracted with 10 cc. of 50% alcohol in water and extract examined by capillary analysis alone and after dilution to 1 to 10 with alcohol, water-alcohol mixture (1 to 1) and water. Comparison with similarly prepared extracts of genuine saffron quickly indicates presence or absence of foreign coloring matters and plants. H. Schmidt-Hebbel, Pharmazeutische Zentralhalle, volume 73, 657 to 659.

Identification of Alkaloids

Microchemical methods are used. Acidified solutions of larocaine yield no precipitate with platinum chloride, but if sodium iodide is added, black precipitate is formed which crystallizes only slowly. With auric chloride, yellow amorphous precipitate is formed, and on addition of sodium bromide (in acid solution) brown dichroic needles separate. Potassium ferricyanide yields characteristic precipitate of flat rectangular crystals, and may be employed to identify alkaloid in 0.1% solution. Mercuric chloride and potassium hydroxide yield only amorphous precipitates. F. Amelink. Pharm. Weekblad, volume 69, pages 1009 to 1011.

Action of P-Hydroxy-Benzoic Esters

Para-hydroxy-benzoic esters, contrasted with benzoic acid, are free from objection in the preservation of foods, pharmaceuticals, cosmetics, and technical preparations because of their harmlessness, their effect upon microbes, and for other reasons. The superiority of these esters over benzoic acid is directly shown in Velthorst's investigations, in contrast to the conclusions he draws. Use of the esters in place of benzoic acid as a preservative is very well grounded and, in fact, for a large number of products, the esters are the best preservatives known. Sabalitschka, Pharm. Monats., 1932.

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ACID, Acetylsalicylic, 225 lb ..... bbls.	.70	.75
Agaric, 1 oz vials.....oz	...	3.50
Arsenous, USP, 220 lb bbls lb.	...	.18
Benzoic, USP, 100 lb bbls. lb.	.48	.52
Boric, 300 lb bbls.....lb.	.07	.08
Cacodylic, 5 lb. bot.....lb.	...	8.00
Camphoric, USP, VIII 1 lb bot.....lb.	4.82	4.82
Carbolic, USP, crys 112 lb tins.....lb.	.17	.18
Cinnamic, 5 lb cans.....lb.	2.85	3.25
Citric, USP, crys 230 lb bbl lb	...	.29
USP, crys imp. 112 lb keg .....lb.	.34	.36
USP, powd 200 lb bbl...lb.	...	.31½
Gallic, USP, 150 lb bbls..lb.	...	.74
Glycerophosphoric, 25% 1 lb bot.....lb.	1.40	1.75
Hydriodic, USP, 10% 5 lb bot.....lb.	...	.59
Hydrobromic, USP, 40% 155 lb. cbys.....	...	.55
Hypophosphorous, USP, 30% .....lb.		
5 gal demis.....lb.	...	.75
Lactic, USP, VIII 100 lb cbys lb.....	.45	.47
USP, X 100 lb cbys.....lb.	.47	.49
Phosphoric, USP, Syr 70 lb drs.....lb.	.14	.15
Pyrogallic, crys 5 lb cans..lb.	1.30	1.40
Resublimed, 5 lb cans...lb.	1.60	1.70
Salicylic, USP, 100 lb bbls.lb.	.40	.45
Stearic, double pressed, bags .....lb.	.08	.08½
Triple pressed, bags,....lb.	.10½	.11½
Succinic, 100 lb bbls.....lb.	...	1.35
Sulfurous, USP, 6% 100 lb cbys.....lb.	.05	.06
Tannic, USP, fluffy 50 lb bbls. .....lb.	.80	.83
Powd 200 lb bbls.....lb.	.70	.75
Tartaric, USP, 300 lb bbls.lb	.20	.20½
Aconitine, Alk, crys 1 oz vials .....oz.	...	29.00
Amorphous, 1 oz vials....oz.	...	17.00
Agaricin, 1 oz vis incl.....oz.	...	2.32
ALCOHOL, Benzyl, 5 lb bot lb. F. O. B. Works.....	1.20	1.35
Ethyl, USP, 190 pf 50 gal bbls.....gal.	...	2.535
Grain U. S. P. bbls....gal.	...	2.585
Pure tax free drums...gal.		
Ethyl.....	...	.445
Grain.....	...	.495
Denatured, (drums included) add 5c for bbls.		
No. 1 spec.....gal.	.335	.415
No. 5 comp.....gal.	.385	.465
23 a, spec.....gal.	.37	.49
39 b, spec.....gal.	.395	.515
40 m, spec .....gal.	.34	.46
Isopropyl refd 98-99% drs. incl.....gal.	.55	.60
Phenylethyl, 1 lb bot.....lb.	4.30	4.50
Aloin, USP, 100 lb cases....lb.	.72	.77
Aluminum Acetotartrate kegs .....lb.	...	1.60
Amidipyrine, 10 lb boxes....lb.	4.00	4.10
AMMONIUM, Acetate 100 lb kegs.....lb.	.26	.33
Benzoate, USP, 1 lb bot...lb.	...	1.27
Borate, 10 lb bot.....lb.	...	.35
Bromide, USP, 450 lb bbls.lb.	.35	.36
Carb, USP, lump 150 lb kegs .....lb.	...	.11
USP, powd 150 lb kegs..lb.	...	.12
Citrate, 100 lb kegs.....lb.	.90	1.30
Ichthyolate, as to brand..lb.	4.00	4.50
Iodide, USP, 25 lb jars...lb.	...	3.72
Phosphate, dibasic 250 lb bbls .....lb.	.48	.50
Salicylate, USP, 100 lb kegs .....lb.	1.15	1.20
Valerate, USP, 25 lb jars...lb.	2.75	2.90
Amylene Hydrate, 1 lb bot..lb.	...	7.10
Antipyrine, USP, 100 lb cans.lb.	2.00	2.50
Apomorphine Hydrochloride, ¼ oz. vials.....oz.	22.45	22.70
Arecoline Hydrobrom, 1 oz vials .....oz.	4.25	4.50
Aspidospermine Amorphous.oz.	...	15.00
Atropine Alk, USP, 1 oz. vials .....oz.	5.00	5.25
Methyl bromide, 1 oz vials.oz.	...	25.00
Sulfate, 5 oz cans.....oz.	...	2.50
Single ounce.....oz.	...	3.00
Barbital, 1 lb. bot.....lb.	3.40	3.50
Barium Iodide, 5 lb box.....lb.	...	4.35
Sulfate, X-ray diagn bbls..lb.	.09½	.10
BAY RUM Porto Rico, 45 gal. bbls.....gal.	.75	.80
Domestic syn. 50 gal bbl..gal.	.70	.75
St. Thomas, 50 gal bbls...gal.	.80	.90
Benzocaine 25 lb. lots..... 1 lb l ots.....	5.00	5.75
Benzonaphthol, 5 lb boxes...lb.	2.50	2.60
Benzoyl Cholride, 500 lb dr..lb.	1.00	1.05
Benzyl Benzoate, Medicinal FFC.....lb.	1.20	1.40
Chloride Redis, 160 lb cby.lb.	.30	.35
Formate, 1 lb bot.....lb.	3.25	3.50
Succinate, 160 lb cby.....lb.	...	5.25
BISMUTH, metal 100 lb cases .....lb.	...	.90
Ammon. Citrate, USP, 5 lb cans.....lb.	...	3.10
Betanaphtholate, 5 lb box.lb.	...	2.90
Citrate, USP, 5 lb cans....lb.	...	2.45
Chloride..... ....lb.	...	2.35
Hydroxide.....lb.	...	2.65
Nitrate, 25 lb jars.....lb	...	.95
Oxide anhydrous.....lb.	...	3.05
Oxychloride, 25 lb boxes...lb.	...	2.60
Salicylate, 25 lb boxes.....lb.	...	1.55
Subcarbonate, USP, 25 lb boxes.....lb.	1.25	1.30
Subcarbonate, X-ray diag 1 lb. bot.....lb.	2.20	2.27
Subgallate, USP, 25 lb boxes .....lb.	1.35	1.40
Subiodide, 5 lb lots.....lb.	...	3.40
Subnitrate, USP, 25 lb jar.lb.	1.10	1.15
Subsalicylate, USP, 25 lb boxes.....lb.	2.15	2.20
Tannate.....lb.	...	2.15
Borax, crys USP, 400 lb bbls.lb.	...	.06
Bromoform, USP, 5 lb bot cases .....lb.	1.65	1.90
Butylchloral Hydrate bot....lb.	4.00	5.00
Cadmium iodide, 10 lb bot...lb.	...	3.65
CAFFEINE Alk, USP, 1..... 100 lb kegs.....lb.	1.95	2.00
Citrated, 50 lb cans.....lb	1.55	1.60
Hydrobromide, 1 lb bot...lb.	4.80	5.00
Hydrochloride, 1 lb bot...lb	6.05	6.55
Sulfate, 1 lb bot.....lb.	5.40	5.90
Sodium Benzoate, tins....lb.	...	3.05
Salicylate, tins.....lb.	...	2.95
Calcium Bromide, 100 lb cs..lb.	...	.60
Carb, USP, 175 lb bbls....lb.	.05	.06
Gluconate, Gran. 125 lb..... bbls.....lb.	.47	.52
Powd.....lb.	.47	.52
Glycerophos, 250 lb bbls...lb.	...	1.05
Hypophos, USP, 25 lb cans lb.	.55	.60
Iodide, 5 lb bot.....lb.	...	3.75
Lactate, USP, 500 lb bbls lb.	.35	.40
Lactophosphate Soluble...lb.	...	1.20
Powdered tins.....lb	...	1.00
Insol, powd tins.....lb.	...	.50
Phosphate & Sulfate Tooth Paste grade, Works..lbs.	.03	.06
Sulfide, USP, 100 lb drs...lb.	.21½	.24
CAMPHOR, Jap. ref. slabs 100 lb. cases.....lb.	.42	.43
Refined powd.....lb.	.43	.44
½ oz tab, 100 lb cases....lb.	.47	.48
Liniment, bbls.....gal.	2.10	2.20
Monobrom, 100 lb cases...lb.	1.60	1.65
Casein edible, 100 lb kegs...lb.	.45	.55
Charcoal Animal medicinal jars incl.....lb.	...	.50
Charcoal Wood, powd, 100 lb. bbls.....lb.	.06	.07
Chloral Hydrate, USP, 25 lb jars.....lb.	.75	.77
100 lb drums.....lb.	.70	.75
Cholesterin.....lb.	11.00	17.00
Chloroform, USP, 50 lb drs...lb.	.25	.27
Chlorophyll, 1 lb. bot.....lb.	3.75	4.00
Chromium Sulfate Scales, tins .....lb.	.45	.50
Powdered tins.....lb.	.50	.55
Chrysarobin, 50 lb tins.....lb.	2.50	2.55
Cinchonine Alk, 100 oz tins.oz.	...	.34
Crystal.....oz.	.43	.46
Sulfate, 100 oz tins.....oz.	...	.23
Cinchonidin Sulfate, 100 oz tins .....oz.	.32	.35
Cinchophen, U.S.P. kegs...lb.	2.75	3.25
Cocaine Alk, USP, 1 oz vial..oz.	...	11.07
Hydrochloride, USP,.....oz.	...	8.50
CODEINE Alk, 1 oz vials, 10 lots.....oz.	...	10.52
Hydrobromide.....oz.	...	8.92
Hydrochloride.....oz.	...	9.52
Nitrate, oz vl 10 oz lots....oz.	...	9.80
Phosp. oz vl, 10 oz lots....oz.	...	7.92
Salicylate.....oz.	...	8.25
Sulfate, oz vl, 10 oz lots...oz.	...	8.42
Colchicino Alk, USP, 1 oz vl.oz.	...	20.00
Salicylate, 1 oz vls.....oz.	...	35.50
Cream Tartar, USP, 300 lb bbls .....lb.	.14½	.15½
Imp. powd. 224 lb bbls....lb.	.17½	.17½
Creosote, USP, 42 lb cbys....lb.	.45	.47
Carbonate, 150 lb.....lb.	1.50	1.60
Cresol, USP, 400 lb drums...lb.	...	.18
500 lb drums.....lb.	.12	.15
DIGITALIN Pure, 1 oz vial..oz	15.00	15.50
Dover's Powder, USP, 5 lb tin .....lb.	2.75	2.80
Duboisine Sulfate, 1 oz vl....oz.	35.00	40.00
Emetine Alk, 15 gr vial.....oz.	...	.85
Hydrochloride, USP, 1 oz vl .....oz.	11.00	11.25
15 grain vials.....oz.	2.50	2.70
Ephedrine, alk. 25 oz. tins,..oz.	1.50	1.90
Hydrochloride, 25 oz. tins, oz.	1.30	1.65
Sulfate, 25 oz. tins.....oz.	1.30	1.65
Epsom Salts, USP, 200 lb bbls 100 lb.	2.25	2.50
Imp. 100 lb bbls....100 lb.	2.30	2.35
Ergotin Bonjean, 1 lb jars...lb.	18.50	19.00
Eserine Alk, 1 oz vials.....oz	...	50.00
Salicylate, 1 oz vials.....oz.	...	40.00
Sulfate, USP, VIII 1 oz vials .....oz.	...	40.00
ETHER, USP, 55 lb drums..lb.	...	.11
Anaesthesia, 55 lb drums..lb.	.21	.23
Nitrous, 1 lb bot.....lb.	.75	.77
Ethyl Chloride, 200 lb bot...lb.	.22	.24
Ethyl Iodide, 5 lb bot.....lb.	6.00	6.05
Formaldehyde, USP, 100 lb cbys lc-l wks.....lb.	.07	.07½
Gall Extract.....lb.	.20	.21
GLANDULAR SUBSTANCES		
Duodenal Substance, 1 lb. lots.....	3.75	3.75
Liver Extract 1-20, 1 lb lots..	5.75	5.75
Orchic Substance (Testicular) 1 lb. lots.....	3.75	3.75
Ovarian Substance, whole, 1 lb. lots.....	12.50	12.50
Ovarian Residue, 1 lb. lots...	10.00	10.00
Pituitary Substance, whole, 1 lb. lots.....	45.00	45.00
Pituitary Substance, Anterior Lobe, 1 lb. lots.....	40.00	40.00
Thyroid, U. S. P., 1 lb. lots..	3.75	3.75
Oxgall Powder, 1 lb. lots....	1.25	1.25
GLYCERIN, CP, 550 lb drums .....lb.	...	.10½
Gold Chloride, bottles.....oz.	12.00	12.50
Guaiacol, liq. USP. 100 lb. cbys.....lb	1.60	1.70
Crystals.....lb	2.25	2.50
Benzoate, 1 lb bottles.....lb.	...	3.00
Carbonate, 5 lb boxes.....lb.	1.75	1.80
Halazone, 5 lb bot.....lb.	2.75	3.25
Hexamethylenetetramine, USP, 100 lb dr.....lb.	.46	.47
Homatropine Hydrobrom USP. .....oz.	...	14.50
5 oz and 1 oz vials.....oz.	...	13.50
Hydrastine Alk, USP, 1 oz vial .....oz.	20.50	21.00
Hydrochlide, USP, 1 oz vials .....oz.	20.50	21.00
Sulfate, 1 oz vial.....oz.	22.50	23.00
Hydrastinine Hydrochloride, USP, 15 gr vials.....oz.	...	40.00
Hydrogen Peroxide, USP, soln 375 lb bbls.....lb.	.03½	.04½
Hyoscine Hydrobrom, USP, 1 oz vials.....oz.	...	35.00
5 oz, 1 oz vials.....oz.	13.07	13.57
Hyoscyamine Alk, crystals, 1 oz vials.....oz.	...	25.07
Amorphous, 1 oz vial...oz.	...	75.07
Hydrobromide, USP. 1 oz vial .....oz.	...	25.00
Sulfate, 1 oz vial.....oz.	...	25.07
Hypoquinone, 100 lb kegs...lb.	...	1.10

ICHTHYOL, tins.....lb.	4.00	4.25
Iodide Arsenous, 5 lb bot...lb.	...	5.20
Arsenous-Mercuric soln, 5 lb bot.....lb	...	.26
Iodine, crude, 200 lb kegs...lb.	...	1.95
Resublimed, 25 lb jars....lb.	...	2.65
Tincture bbls.....gal.	...	2.55
Iodoform, powd 10 lb bot...lb.	...	5.20
Iron & Ammonium Citrate, USP, 50 lb cans.....lb.	.42	.44
Chloride, USP, lump 400 lb bbls.....lb.	.06	.08
Citrate, USP, VIII 25 lb can .....lb.	.94	.99
Hypophosphite, 5 lb cans..lb.	1.40	1.50
Iodide, 1 lb bottles.....lb.	...	3.00
Phosphate, USP, 50 lb cans .....lb.	...	.69
& Potas Oxalate, 250 lb bbl .....lb.	...	.45
Pyrophosphate, USP, 50 lb .....lb.	.74	.80
& Sod Oxalate, 50 lb. cans.lb.	...	.30½
Sulfate, USP, crys bbls....lb.	.04	.04½
Ferrous dried bbls.....lb.	...	.08
Valerate, tins.....lb.	2.75	3.00
Jalap Resin, USP lumps, 5 lb tins.....lb.	...	4.00
Powdered, tins.....lb.	...	4.65
Lanolin, hyd 350 lb. bbls....lb.	.13	.15
Anhydrous, 350 lb. bbls...lb.	.14	.16
Lead Acetate, USP, 100 lb kegs .....lb.	.16½	.19½
Iodide, USP, VIII 5 lb bot.lb.	...	2.55
Lecithin, 5 oz. jars.....oz.	1.00	1.30
Vegetable, cans.....lb.	1.00	2.50
Licorice Ext Mass, cases....lb.	.19	.20
Compound powder, bbls...lb.	.11	.13
LITHIUM CARBONATE, 250 lb bbls.....lb.	1.25	1.35
Citrate, USP, 100 lb kegs..lb.	...	1.40
Iodide, 5 lb bottles.....lb.	...	4.60
Lobeline Sulfate, ¼ oz vial...oz.	...	8.75
Magnesium Carbonate, USP, 100 lb bbls.....lb.	.08	.09
English, oz blocks.....oz.	.16	.18
Glycerophosphate, 5 lb tins.lb.	3.20	3.25
Hypophosphite, 5 lb cans..lb	1.10	1.15
Oxide, 100 lb. cases.....lb	.35	.45
Salicylate, 100 lb kegs.....lb	...	1.10
Stearate, bbls.....lb.	.18	.20
Manganese Glycerophosphate, 5 lb tins.....lb.	2.90	3.00
Hypophosphite, USP, VIII 5 lb cans.....lb.	1.35	1.40
Iodide, 1 lb bottles.....lb.	...	5.35
MENTHOL, USP, 60 lb cases .....lb.	3.00	3.50
Synthetic, cases...lb.	2.50	2.75
Mercury Metal, 75 lb flasks...fl.	53.00	55.00
Bichloride, crys 25 lb box..lb.	...	.82
Gran powd, 100 lb kegs..lb.	...	.67
Bisulfate, 25 lb boxes.....lb.	...	1.48
Blue Mass, 25 lb boxes....lb.	...	.84
Powd, 25 lb boxes.....lb.	...	.85
Blue Ointment, USP, 50%, 25 lb cans.....lb.	...	.91
Mild 30%, 25 lb cans....lb.	...	.64
33 1/3% mercury.....lb.	...	.67
Calomel, 50 lb boxes.....lb.	...	1.15
English.....lb.	2.65	2.75
Iodide, green, 25 lb jars....lb.	...	3.95
Red, USP, 25 lb jars...lb.	...	3.55
Yellow, USP, VIII, 25 lb jars.....lb.	...	3.65
Red precip Powd. USP, 25 lb. boxes.....lb.	...	1.24
White precip, Powd., USP, 25 lb. boxes.....lb.	...	1.31
Salicylate, 25 lb bot.....lb.	...	2.32
With chalk, USP, 25 lb boxes .....lb.	...	.69
Methanol, Pure 1c-1 drs....gal	...	.44
Methyl Salicylate, USP, 50 lb cans.....lb.	.40	.42
Methylene Blue, USP, med 5 lb cans.....lb	2.00	2.05
Milk powd, 150 lb bbls.....lb.	.09	.12
MORPHINE Alk, 5 oz tin...oz.	10.90	10.95
Acetate, 5 oz tins.....oz.	8.75	8.80
Hydrobromide, 5 oz tins, 10 oz lots.....oz.	8.75	8.80
Hydrochloride, 5 oz tins, 10 oz lots.....oz.	8.75	8.80
Ethyl Hydrochloride, 5 oz tins 10 oz lots.....oz.	....	10.85
Sulfate, 5 oz tins, 10 oz lots oz.	7.85	8.00
Naphthalene Flake, 175 lb bbls wks.....lb.	.04½	.05
Balls, 250 lb bbls wks.....lb.	.05½	.06
Neo-cinchophen 5 lb. lots..... 1 lb. lots.....lb.	15.00	18.00
Oxgall, Purified, 5 lb bot....lb.	2.00	2.50
USP Extract, 5 lb. bot....lb.	1.80	1.90
Oxyquinoline Sulfate, tins...lb.	5.00	5.75
Pancreatin, USP, 100 lb....lb.	...	1.90
Paraffin, refd, 200 lb cs slabs 118 -120 deg MP.....lb.	.08	.09
128-132 deg MP.....lb.	.07½	.07¾
Para-Aldehyde, USP, 100 lb. carboys.....lb.	.48	.50
Pepsin, USP, 100 lbs. 1:3000.lb.	...	2.25
100 lbs. 1:6000.....lb.	...	4.00
100 lbs. 1:10000 .....lb.	...	6.50
Peptone, powd., or granula 5 lb. 100 lb. lots.....lb.	.70	1.00
PHENOBARBITAL, U. S. P., 100 lb. lots.....lb.	...	6.50
Phenolphthalein, U. S. P..... 100 lb drums.....lb.	...	.52
5 lb cans 100 lb lots..lb.	...	.60
Yellow.....lb.	...	.47
Pilocarpine Hydrochloride, USP, 1 oz vials 25 oz lots .....oz.	...	3.25
Nitrate, 25 oz lots.....oz.	...	3.25
Single ounce.....oz.	...	3.50
Alkaloid, 15 gr vials.....vl.	...	.75
Piperadine, 25 oz bottles.....lb.	...	8.00
Popodhyllin 5 lb bottles.....lb.	4.35	4.50
Potassium Acetate, USP, 100 lb kegs.....lb.	.29	.30
Bicarb, USP, crys 320 lb bbls .....lb.	.09½	.10
Bromide, USP, crys 100 lb cs .....lb.	.31	.32
Citrate, USP, 100 lb. box.lb.	.42½	.43
Guaiacol Sulfonate.....ib.	1.95	2.25
Potassium Hypophosphite, 10 lb. cans.....lb.	.65	.70
Iodide, USP, 25 lb cases...lb.	...	2.15
Lactophosphate, 4 ox bot..lb.	...	.90
Permangan, USP, crys, 100 lb drs wks.....lb.	.16	.16½
Phosphate dibasic pure, kegs .....lb.	...	.49
Salicylate, 25 lb cans.....lb.	...	1.18
Sulfate, USP, VIII, 100 lb kegs.....lb.	.13	.15
Sulfocyanide, CP 15 lb jars lb.	...	.50
Tartrate, CP, tins.....lb.	...	.65
Pyrogallol, USP, see Acid Pyrogallic.....	...	...
Quinidine Alk, 100 oz tins...oz.	.75	.80
Sulfate, 100 oz tins.....oz.	...	.50
QUININE SULFATE, USP, 100 oz tins.....oz.	...	.30
1 oz tins, 100 oz lots....oz.	...	.40
Acetate.....oz.	...	.68
Arsenate.....oz.	...	.71
Benzoate.....oz.	...	.74
Bisulfate, USP.....oz.	...	.30
Citrate.....oz.	...	.46
Dihydrobromide.....oz.	...	.50
Dihydrochloride, USP....oz.	...	.49
Ethyl Carbonate, 16 oz tins .....oz.	...	.54
Ferrocyanide.....oz.	...	.69
Formate.....oz.	...	.66
Glycerophosphate.....oz.	...	.87
Hydrobromide, USP.....oz.	...	.45
Hydrochlorosulfate.....oz.	...	.49
Hypophosphite.....oz.	...	.65
Lactate.....oz.	...	.66
Phenolsulfonate.....oz.	...	.78
Phosphate.....oz.	...	.57
Salicylate, USP.....oz.	...	.48
Tannate, USP.....oz.	...	.38
Tartrate.....oz.	...	.69
Valerate.....oz.	...	.73
Urea Hydrochloride, USP..... .....oz.	...	.50
Rennet, N. F. 5 lb 1:25,000...lb.	2.95	3.50
Resorcinol, USP, 25 lb cans..lb.	1.57	1.65
Rochelle Salt, USP, 225 lb bbl .....lb.	.11½	.12
Rock Sugar, 5 lb boxes.....lb.	...	.15
Saccharin, USP, 10 lb cans...lb.	1.70	1.80
USP, Soluble, 10 lb cans...lb.	1.75	1.85
Salicin, USP.....lb.	...	12.50
SALOL, USP, 100 lb drums..lb.	...	.90
Saltpetre, powd, bbls wks....lb.	.06½	.08½
Santonin, USP, bulk.....lb.	.65	.70
Saponin, refined.....lb.	1.30	1.50
Seidlitz Mixture, 250 lb bb...lb.	.10	.10½
Silver Metal, American.....oz.	...	.29½
Iodide, 16 oz lots.....oz.	...	.69
Nitrate, 100 oz bottles....oz.	.22½	.24½
Nucleinate, bulk.....oz.	...	.37
Proteinate.....oz.	.39	.41
SODIUM BENZOATE, USP, 100 lb bbls.....lb.	.42	.47
Bromide, USP, 100 lb kegs.lb.	.31	.32
Cacodylate, USP, 25 lb bot .....lb.	4.75	5.90
Citrate, USP, X100 lb. box.lb.	.33½	.35½
USP VIII, 100 lb. box..lb.	.26½	.28
Glycerophosphate, N.F., crys 25 lb cans.....lb.	1.27	1.33
Powder, 25 lb tins.....lb.	1.32	1.38
Soln, USP, 25 lb tins..lb.	1.05	1.15
Hypophosphite, USP, 25 lb cans.....lb.	.60	.65
Iodide, USP, 25 lb jars...lb.	...	2.75
Phosphate (Mono-Sodium), 100 lb kegs.....lb.	.28	.29
Di-Sodium USP, granular, 275 lb bbls.....lb.	.07½	.08
Pyrophosphate, 100 lb kegs .....lb.	...	.29
Salicylate, 100 lb kegs....lb.	...	.47
Sulfocarbolate, USP, 100 lb kegs.....lb.	...	.25
Sulfocyanate, CP crys, jars included.....lb.	...	.60
Spartein Sulfate, USP, 25 oz bulk.....oz.	.65	.70
Single oz vial.....oz.	.77	.90
STRONTIUM BROMIDE USP, 50 lb kegs.....lb.	.46	.47
Carb, 100 lb kegs wks....lb.	...	.20
Iodide, USP, 25 lb jars....lb.	...	3.00
Lactate, kegs.....lb.	.90	1.10
Nitrate, 600 lb bbls NY...lb.	.08	.08½
Imp, bbls NY.....lb.	.08	.08½
Salicylate, USP, 100 lb keg lb.		1.10
Strophanthin, USP, 1 oz vial.oz.	19.00	19.00
Crystals.....lb.	75.00	75.00
Strychnine Alk, USP crys, 100 oz tins.....oz.	...	.37
Powdered.....oz.	...	.27
Acetate.....oz.	...	.65
Arsenate, 25 oz cans....oz.	...	.65
Glycerophosphite, USP ...oz.	...	.65
Hydrobromide..... .....oz.	...	.65
Hydrochloride.....oz.	...	.65
Hypophosphite.....oz.	...	.75
Nitrate, USP.....oz.	...	.60
Phosphate.....oz.	...	.65
Sulfate, USP, powd ....oz.	...	.24
Sugar, refined, 275 lb bbl 100 lb	5.80	5.90
Milk, USP, 200 lb bbls ..lb.	.18	.20
Sulfonethylmethane, USP, 10 lb boxes.....lb.	3.85	4.05
Sulonmethane, USP, 10 lb box .....lb.	2.65	3.85
Sulfur flwrs. washed, USP, 125 lb bbl.....lb.	...	.06
Iodide, USP, VIII, 5 lb bot lb.	...	3.85
TARTAR EMETIC, USP, 300 lb bbls.....lb.	.26	.28
Terebene, tins.....lb.	...	.85
Terpin Hydrate, USP, 100 lb kegs.....lb.	.30	.32
Theobromine Alk, 5 lb cans..lb.	1.85	2.15
Sod. Salicylate, 1 lb bot...lb.	...	2.10
Sod. Benzoate, 1 oz vials..oz.	...	1.00
Thymol, USP, 25 lb tins.....lb.	1.15	1.25
Iodide kegs.....lb.	...	3.80
Veratrine Alkaloid.....oz.	...	2.25
Sulfate, 1 oz vials.....oz.	...	2.25
Witch Hazel Ext., 50 gal bbl .....gal.	.60	.80
Zinc Carb, USP, 100 lb keg..lb.	.28	.31
Chloride, USP, 25 jars ex..lb.	.24	.29
Iodide, 5 lb bottles.....lb.	...	4.25
Oxide, USP, 100 lb bbls...lb.	.13	.14
Stearate, USP, 50 lb bbl..lb.	.15	.17
Sulfate, USP, 100 lb bbl..lb.	.08	.09
Sulfocarbolate, 100 lb kegs..lb.	.23	.26

Miscellaneous

Absorption Bases.....lb.	.60	.75
Castor Oil, odorless, bbls.....lb.	...	.12
Chalk drop, 175 lb. bbls.....lb.	...	.03½
Precip. light, 250 lb. cask..lb.	...	.04½
Heavy 540 lb. casks.....lb.	...	.02½
Bulk.....ton	...	5.00
English light, bags.....lb.	...	.04¾
English light, casks.....lb.	.05½	...
Cocoa Butter, fingers..... 12 lb. box.....lb.	.24	.26
Cod Liver Oil Nor. 30 gal. bbls	18.00	20.00
Newfoundland.....bbl.	...	25.00
Collodion U. S. P. 30 lb. dr...lb.	.13	.14
Colors certified; 1 lb. cans, 5 lb. cans		
Amaranth No. 107.....lb.	2.55	2.65
Brilliant Blue F.C.F.....lb.	13.25	13.50
Erythrosine No. 517.....lb.	17.00	17.50
Orange Ind. 85.....lb.	2.55	2.65
Ponceau 3R No. 56.....lb.	5.25	5.50
Tartrazine No. 94.....lb.	2.55	2.65
Corn Syrup 42° 50 gal. bbl. .....100 lb.	...	2.28
Gelatin, USP, Silver 100 lb. cases.....lb.	.49	.55
Pure Food, 50 lb. bbl.....lb.	.47	.49
Glucose, (grape sugar) dry 70° bags c-1 NY.....100 lb.	3.14	3.24
Haarlem Oil, bot 6 gross cases .....gross	...	3.25
Imported, 5 gr. cs.....gross	...	3.35
Kaolin, Bags.....lb.	.06	.08
Colloidal Grade 200 lb. tin lined wooden drums....lb.	.15	.29
Mineral Oil White, 50 gal. bbls. 80-85 vis.....gal.	.45	.50
85-90 vis.....gal.	.65	.70
125-130 vis.....gal.	.75	.85
290 vis.....gal.	.80	.90
Russian 80-85 vis.....lb.	.55	.60
110-115 vis.....gal.	.70	.75
145-155 vis.....gal.	.73	.78
180-185 vis.....gal.	.78	.83
320-330 vis.....gal.	.83	.88
Olive Oil, Edible bbls.....gal.	1.45	1.55
Paraffin Wax, fully refined, slabs 125 @ 127 A.M.P. bags lb	...	.03½
130 @ 132 A.M.P. bags lb.	...	.03¾
135 @ 137 A.M.P. bags lb.	...	.04¼
Petrolatum, Lily White, USP. 400 lb. bbl .....lb.	.07½	.08½
Snow White USP, 400 lb. bbls.....lb.	.09	.10
Rice Starch, 140 lb bags....lb.	.08	.09
Soap Castile, bars 40 lb. Case .....Cs.	...	12.75
Powd. USP 250 lb. bbls...lb.	.21	.23
Green, USP, 450 lb. bbls...lb.	.07½	.07½
Neutral, powd. 200 lb. bbls.lb.	.18	.20
Talc, Italian, 220 lb bags...ton.	55.00	75.00
French, 220 lb bags.....ton.	40.00	45.00
Turtle Oil, gal.....	3.50	5.00

Waxes, See Drugs & Spices

Aromatics and Essential Oils

Acetophenene, CP, 1 lb bot..lb.	3.50	3.65
Aldehyde, C 8 (Otcyl) 1 lb bot ..lb.	30.00	35.00
C 7, 1 lb bot.....lb.	4 50	5.50
C 9 (Nonyl), 1 lb bot ....lb.	40.00	45.00
C 10 (Decyl), 1 lb bot....lb.	30.00	35.00
C 14, 1 lb bot.....lb.	12.00	14.00
C 16, 1 lb bot.....lb.	16.00	18.00
AMYL ACETATE, pure, 25 lb cans.....lb.	.43	.50
Butyrate, 1 lb bot.....lb.	1.25	1.50
Butyrate, 5 lb bot.....lb.	...	1.00
Cinnamate, 5 lb bot.....lb.	9.50	9.75
Formate, 1 lb bot.....lb.	...	1.75
Formate, 5 lb bot.....lb.	...	1.60
Phenyl Acetate, 1 lb bot...lb.	4.50	5.00
Salicylate, 100 lb cbys....lb.	.70	.75
Anethol, 2 lb bot.....lb.	.85	1.00
Anisic Aldehyde, 1 lb bot....lb.	3.10	3.60
Benzaldehyde, USP, 40 lb cbys ..lb.	1.30	1.40
FFC, 40 lb cbys.....lb.	1.35	1.45
Benzoic Ether, see Ethyl Benzoate.....		
Benzophenone, 1 lb bot.....lb.	1.75	2.25
Benzyl Acetate, 100 lb cbys..lb.	.60	.80
Alcohol, 5 lb bot.....lb.	.85	.95
BENZYL BENZOATE.....lb.	1.10	1.15
Medicinal, FFC.....lb.	...	1.40
Buytrate, CP, 1 lb bot....lb.	9.25	9.50
Benzyl Cinnamate, 1# bot. .lb.	7.00	7.25
Formate, 1 lb bot.....lb.	3.15	3.25
Propionate, 1 lb bot.....lb.	2.25	2.40
Succinate, 1 lb bot.....lb.	5.25	5.50
Valerate, 5 lb bot.....lb.	3.00	3.25
Borneol, 1 lb bot.....lb.	1.35	1.85
Bornyl Acetate, 1 lb bot....lb.	1.50	2.60
Bromstyrol, 25 lb cases.....lb.	3.75	3.85
Butyl Anthranilate dom, 1 lb bot.....lb.	3.00	3.40
Carvol, 5 lb bot.....lb.	3.25	3.50
Cinnamic Acid, 5 lb cans....lb.	2.50	2.60
Alcohol liquid, 1 lb bot...lb.	3.50	4.00
Crystallizable.....lb.	2.25	2.50
Aldehyde.....lb.	7.75	9.00
Imported, 1 lb bot.....lb.	1.65	3.00
Citral, 25 lb cans.....lb.	2.00	2.25
Citronellol 1 lb bot.....lb.	3.50	3.75
Citronelyl Acetate, 1 lb bot..lb.	3.25	3.50
Coumarin, 25 lb cans.....lb.		
DECYL ALCOHOL.....lb.	22.00	25.00
Diphenyloxide, 25 lb tins...lb.	1.05	1.20
Diphenyl Methane.....lb.	1.75	2.00
Duodecyl Alcohol.....lb.	24.00	26.00
Ethyl Acetate, pure, 5 lb bot.lb.	.05#	.06#
Benzoate, 5 lb bot.....lb.	1.25	1.50
Ethyl Butyrate, 5 lb bot....lb.	1.80	2.00
Caproate, 1 lb bot.....lb.	3.25	3.50
Cinnamate, 1 lb bot.....lb.	4.00	4.50
Formate, 5 lb bot.....lb.	1.00	1.25
Methyl Paracresol, 1 lb bot .....lb.	3.25	3.50
Phenyl Acetate, 5 lb bot..lb.	3.75	4.00
Valerate, 5 lb bot.....lb.	...	3.75
Salicylate, 5 lb bot.....lb.	1.95	2.00
Eucalyptol, USP, 50 lb cans..lb.	.55	.60
Eugenol, USP, 25 lb cans....lb.	2.00	2.50
Geraniol, 50 lb cases.....lb.	1.75	2.35
Geranyl Acetate, 1 lb bot....lb.	2.75	2.80
Butyrate, 1 lb bot.....lb.	13.00	13.50
Formate, 1 lb bot.....lb.	12.00	12.50
Heliotropin, 100-10 lbs.....lb.	1.65	1.75
Imported.....lb.	1.95	2.05
Hydroxycitronellal, 1 lb.....lb.	2.90	4.00
Indol, CP, 1 oz bot.....oz.	2.90	3.00
IONONE, 1 lb bot 100%...lb.	4.00	4.50
Alpha.....lb.	5.75	6.00
Beta.....lb.	4.50	5.00
Methyl.....lb.	5.00	5.25
Iso Borneol.....lb.	2.25	2.35
Iso Bornyl Acetate.....lb.	3.00	3.20
Iso-Butyl Benzoate, 5 lb bot.lb.	2.75	3.00
Iso-Eugenol, 1 lb bot.....lb.	2.85	2.90
Iso-Safrol, 1 lb bot imp.....lb.	1.75	1.85
Domestic, 5 lb bot.....lb.	3.50	3.75
Linalol from Bois de Rose, 5 lb bot.....lb.	1.65	3.50
Linalyl Acetate, 1 lb bot....lb.	2.25	2.35
Benzoate, 1 lb bot.....lb.	13.00	14.00
Formate, 5 lb bot.....lb.	10.50	12.00
METHYL ACETOPHENONE .....lb.	2.00	2.15
Anthranilate, 1 lb bot.....lb.	2.10	2.20
Imported.....lb.	2.70	2.75
Benzoate, 5 lb bot imp....lb.	1.25	1.35
Domestic, 5 lb bot.....lb.	1.25	1.35
Cinnamate, 1 lb bot.....lb.	3.35	3.85
Heptenone, 1 lb bot.....lb	3.50	4.00
Paracresol, 1 lb bot.....lb.	4.50	8.00
Phenylacetate, 5 lb bot...lb	2.50	2.75
Salicylate, USP, 500 lb dr .lb.	...	.40
50 lb cases.....lb.	...	.42
Mirbane rect, 1,000 lb drs...lb.	.12	.13
Musk Ambrette 1 lb cans...lb	6.00	6.25
Ketone 1 lb cans.....lb	7.55	7.80
Xylene 5 lb cans.....lb.	2.25	2.85
Nerolin 1 lb cans.....lb.	1.35	1.40
Octyl Alcohol 1 lb bot.....lb.	18.00	20.00
Oenanthic Ether lb bot.....lb.	1.90	2.00
Oleoresin Aspidum..... USP, bot and tins.....lb.	...	1.25
Capsicum, USP, bot and tins .....lb.	1.90	2.15
Cubeb, USP, bot and tins..lb.	2.30	2.60
Ginger bot and tins.....lb.	2.20	2.50
Male fern see Aspidum.....		
Orris, bot & tins.....lb.	12.00	15.00
Pepper, black, USP, bot & tin .....lb.	...	9.50
Vanilla, bot & tins.....lb.	5.00	5.75
Paracresol Methyl Ether....lb.	4.25	4.50
Paracresyl Acetate.....lb.	5.50	5.75
Para Cymene Refd 110 gal dr .....gal.	2.25	2.50
PHENYLACETALDEHYDE 50% 1 lb bot.....lb.	4.50	4.75
Imported 50%.....lb.	4.50	4.75
100%.....lb.	8.00	8.25
Phenylacetic Acid 1 lb bot..lb.	2.65	2.90
Phenyl Diacetate 1 oz bot...oz.	3.00	3.25
1 lb bot.....lb.	8.00	10.00
Imported.....lb.	7.00	7.75
Phenylethyl Alcohol 1 lb bot.lb.	3.75	4.00
Phenyl Ethyl Acetate.....lb.	8.25	8.75
Butyrate 1 lb bot.....lb.	15.00	16.00
Formate, 1 lb bot.....lb.	19.00	21.00
Propionate, 1 lb bot.....lb.	10.00	12.00
Valerate, 1 lb bot.....lb.	14.00	15.00
Phenylpropylalcohol, 1 lb bot .....lb.	8.50	9.00
Rhodinol, 1 lb bot.....lb.	12.00	15.00
Skatol, 1 oz bot.....lb.	4.50	7.00
Terpinyl Acetate, 25 lb cans..lb.	.85	.90
Imported, 25 lb cans.....	.85	.90
TERPINEOL, CP, 1000 lb drs .....lb.	.29	.30
50 lb cans.....lb.	.31	.33
Absolute, 25 lb cans.....lb.	.48	.50
TOLYL ALDEHYDE, F.F.C. 40 lb. carboys.....lb	2.10	2.25
Valerianic Ether see Ethyl Valerate.....		
Vanillin (Clove Oil), USP.lb. (Guaiacol) USP.....lb.	5.50 5.00	5.75 5.25

Essential Oils

Almond Bitter, USP, 5 lb bot lb.	2.15	2.25
Bitter, ffPA, 5 lb bot.....lb.	2.25	2.35
Sweet, 56 lb cans.....lb.	.42	.46
Almond Meal, 25 lb cans....lb.	.20	.21
Amber crude, 25 lb tins.....lb.	.16	.18
Rectified, 25 lb tins.....lb.	.50	.53
Amber liquid, 400 lb drs.....lb.	2.20	2.30
Ambergris, Black, boxes.....oz.	14.00	15.00
Gray boxes.....oz.	25.00	30.00
Angelica Root, 1 lb bot.....lb.	19.00	29.00
Anise Tech, 400 lb drums...lb.	.29	.31
USP, 60 lb cans.....lb.	.31	.33
Apricot Kernel, 50 lb cans...lb.	.22	.23
Bay, 25 lb tins N. F. V., 50.55% Phenol.....lb.	1.50	1.65
Terpeneless.....lb.	4.25	4.45
BERGAMOT, 25 lb coppers.lb.	1.35	2.00
Terpeneless.....lb.	6.25	8.00
Artificial, 25 lb cans.....lb.	1.00	1.50
Birch, Sweet, Northern, 25 lb tins.....lb.	3.00	3.10
Southern, 25 lb tins.....lb.	...	1.85
Birch Tar, rect., 5 lb bot.....lb.	.50	.55
Crude, 50 lb tins.....lb.	.13	.14
Bois de Rose, tins..... Brazilian .....lb.	.95	1.10
Cayenne, tins.....lb.	1.90	2.10
Cade, 25 lb cans.....lb.	.24	.25
Cajuput, native, 50 lb tins..lb.	.48	.60
Calamus, 5 lb bot.....lb.	2.75	3.00
Camphor Sassa, 1000 lb drs..lb.	.10	.12
White, 400 lb drs.....lb.	.11	.13
Cans, 50 lbs.....lb.	.13	.15
CANANGA, Native 25 lb tins .....lb.	1.60	1.75
Rectified, 25 lb tins.....lb.	2.05	2.20
Caraway, USP.....lb.	1.40	1.50
Cardamon, NF, 1 lb bot.....lb.	15.00	16.00
Cascarilla, 1 lb bot.....lb.	56.00	70.00
Cassia, ... Redist, USP, 50 lb cans...lb.	.85	.90
Cedar Leaf, 50 lb tins.....lb.	.50	.55
Cedar Wood, light, 1000 lb drs .....lb.	.25	.30
Celery, 1 lb bot.....lb.	8.50	10.00
Chaulmoogra, USP 80 lb cases lb.	...	1.50
Cinnamom Ceylon, 1 lb bot..lb.	8.00	10.00
Leaf, 5 lb bot.....lb.	1.85	1.95
CITRONELLA Ceylon, 1000 lb drs.....lb.	.37	.38
50 lb tins.....lb.	.38	.39
Java, 400 lb drs.....lb.	.47	.52
50 lb tins.....lb.	.49	.55
Civet, Abyssin, horns.....oz.	2.10	3.00
Cloves, USP, 50 lb cans.....lb.	.85	.90
6 lb bot.....lb.	.90	.95
Copaiba.....lb.	.45	.50
Coriander, USP, 10 lb bots..lb.	3.90	4.15
Croton USP, 25 lb tins.....lb.	2.30	2.50
Cubebs, USP, 5 lb bot.....lb.	2.40	2.60
Cumin, 1 lb bot.....lb.	7.00	7.50
Dill, 25 lb cans.....lb.	3.00	5.25
Erigeron, 20 lb tins.....lb.	.95	1.05
EUCALYPTUS Austl, USP, 56 lb cans, cases.....lb.	.22	.24
500 lb drs.....lb.	.20	.21
Fennel, USP, 25 lb tins.....lb.	1.00	1.25
Geranium African, 25 lb tins..lb.	4.25	5.00
Bourbon, 28 lb tins.....lb.	4.25	4.75
Turkish, 28 lb tins.....lb.	1.65	1.85
Ginger, 1 lb bot.....lb.	3.20	3.45
Gingergrass, 28 lb tins.....lb.	2.50	2.70
Grape Fruit.....lb.	2.75	2.85
Hemlock, 25 lb tins.....lb.	.85	1.00
Juniper Berries, USP, 25 lb tins .....lb.	1.15	1.95
Wood, 50 lb tins.....lb.	.50	.60
Labdanum, 5 lb bot.....lb.	5.50	6.00
LAVENDER, USP, 28 lb tins .....lb	1.40	2.00
Spike Spanish, 50 lb cans..lb.	.48	.65
Lemon Ital, 25 lb cans.....lb.	.75	1.10
California 35 lb cbys....lb.	...	.65
Lemongrass, native, 50 lb cans .....lb.	.42	.45
Limes, expressed, 25 lb tins..lb.	10.00	12.50
Distilled, 25 lb tins.....lb.	6.75	7.25
Linaloe Mex., 70 lb cases....lb.	...	1.40
Mace, distilled, 50 lb tins....lb.	.85	.90
Mandarin, 25 lb cases.....lb.	3.75	4.00
Musk Pods Cabardine, tins..lb.	...	...
Musk Tonquin, tins, Pods...oz.	18.00	20.00
Tonquin, tins, Grained..oz.	20.00	22.00
MUSTARD, USP, 1 lb bots.lb.	8.50	9.00
Artif, USP, 5 lb bot.....lb.	1.50	1.60
Neroli Bigarade, # & # & 1 lb bot .....lb.	75.00	105.00
Petale, 1 lb bot.....lb.	95.00	105.00
Artificial, 1 lb bot.....lb.	5.00	15.00
Nutmeg, USP, 50 lb tins....lb	.90	.95
ORANGE BITTER, 25 lb tins .....lb	1.10	1.50
Sweet W Ind, 25 lb tins..lb	1.05	1.25
Italian, 25 lb cop.....lb	1.00	1.25
Orange American, Cold pressed 25 lb tins.....lb.	...	.70
Distilled, 25 lb tins.....lb.	...	.40
Spanish, 25 lb tins.....lb.	...	1.20
Oil Orris, concrete.....oz.	4.00	4.25
Origanum, 50 lb cans tech...lb.	.25	.27
Parsley, 1 lb bot.....lb.	6.50	6.75
Patchouli, 5 lb bot.....lb.	3.25	4.00
Pennyroyal, dom, 25 lb tins..lb.	1.65	1.75
Imported, 25 lb tins.....lb.	...	1.25
Pepper Black lb.....	...	6.00
Peppermint, nat. 60 lb cases lb.	1.85	1.95
Redis, USP, 60 lb cs.....lb.	2.00	2.10
Petit Grain S A., 25 lb tins..lb.	.90	.95
French, 1 lb bot.....lb.	4.50	4.75
Italian, 25 lb tins.....lb.	2.20	2.30
Pimento Leaf, 25 lb tins ....lb	1.15	1.30
Berries, 25 lb tins .....lb	3.00	3.10
Pine Needle Siberian, cans..lb.	.80	1.00
Pinus, Sylvestris, 25 lb tins..lb.	1.30	2.00
Pumilio, USP, 25 lb tins...lb.	1.90	1.95
Rose Fr, 8, 16, & 32 oz pkgs..lb.	14.00	17.00
Bulg, 8, 10 & 32 oz pkgs...oz.	6.00	17.00
Rosemary, USP, 27# lb tins..lb.	.34	.40
1000 lb drums.....lb.	.32	.38
Tech, 25# lb tins.....lb.	.26	.28
Rue, 1 lb bot.....lb.	2.00	2.25
SANDALWOOD, E Ind ,USP, 100 lb case.....lb.	5.50	6.50
W Indian (Amyris), 25 lb tins.....lb.	2.85	2.95
Australian, Tins.....	2.95	3.25
Sassafras, USP, 50 lb cans...lb.	.60	.90
Artificial, 1000 lb drs, 60 lb cans.....lb.	.16	.18
Safrol, cans.....lb.	.22	.24
Sage, Dalmatian, 25 lb. cans.lb.	2.00	2.10
Savin, 50 lb tins.....lb.	1.85	2.00
Snakeroot, Canada.....lb.	8.25	8.50
SPEARMINT, USP, 50 lb tins .....lb	.90	1.10
Spruce, 50 lb tins.....lb	.70	.75
Tansy, American, 25 lb tins..lb.	1.70	1.90
Tar, 50 gal bbls.....lb.	.25	.30
USP, 50 gal bbls.....lb.	.75	1.50
Thyme, red, NF, 25 lb tins..lb.	.60	.75
White, NF, 25 lb tins.....lb.	.65	.80
Tech, 110 lb drums.....lb.	.50	.55
Turpentine, USP, rect cbys..lb.	.27	.30
Vetivert Bourbon, 10 bot....lb.	4.00	4.25
Indian, 1 lb bot.....lb.	25.00	38.00
Java, 1 lb bot.....lb.	12.00	13.00
Wine, heavy, 1 lb bot.....lb.	1.50	1.60
WINTERGREEN Gaultheria, true, 25 lb tin.....lb.	8.00	10.00
Southern, 25 lb tins....lb.	3.75	4.00
Synthetic see Methyl salicylate.....		
Wormseed, Balt, 25 lb tins...lb.	1.85	2.15
Wormwood, dom, 25 lb tins..lb.	2.25	2.75
Ylang Ylang Bourbon, 10 lb tins No. 1.....lb.	4.00	4.25
10 lb tins No. 2....lb.	3.00	3.50
Manila, 1 lb bot.....lb.	22.00	27.00

Drugs and Spices

Aconite Root, USP, bags	lb.	.12 .13
Agar Agar, No. 1, bales	lb.	.40 .43
Agar Agar No. 2, bales	lb.	.35 .38
Almonds Meal	lb.	.20 .25
Aletris Root, bags	lb.	.16 .18
Alkanet Root, bags	lb	.09 .10
ALOES, Cape, 400 lb cases.	lb.	.08 .09
Curacao, 140 lb cases	lb.	.09 .10
Socotrine, Whole, 300 lb cs	lb.	.28 .31
Althea Root, bags	lb.	.14 .16
Cut cases	lb.	.15 .16
Angelica Root, bags	lb.	.13 .14
Angostura Bark, bags	lb.	.18 .19
Anise Star case	lb	.09 .10
Spanish, bags	lb	.08 .09
ARABIC GUM, White, No. 1, 220 lb bags	lb.	.14 .15
Seconds, 220 lb bags	lb.	.13 .14
Sorts, Amber, 220 lb bags	lb.	.06 .06½
Powd, USP, 300 lb bbls	lb.	.10 .13
Areca Nuts, 100 lb bbls	lb.	.05 .07
Powd, 100 lb bbls	lb.	.10 .11
Arnica Flowers, bales	lb.	.10 .11
Root, bags	lb.	.40 .41
Arrowroot, St. Vincent, powd bbls	lb.	.08 .09
Asafoetida, 250 lb cases	lb.	.16 .17
Powd, 50 lb boxes	lb.	.32 .35
Balm Gilead Buds, bags	lb.	.20 .21
Balmony Herbs, bales	lb.	.10 .12
BALSAM COPAIBA Para, 80 lb cases	lb.	.16 .17
South American, USP, 80 lb cases	lb.	.18 .22
Peru, 120 lb cases	lb.	.85 .90
Tolu, 90 lb cases	lb.	.72 .82
Barberry Bark, of root, bags	lb.	.15 .17
Bayberry Bark, bales	lb.	.07 .08
Wax bbls	lb.	.15 .17
BELLADONNA LEAVES, bale	lb.	.10 .12
Root, bags	lb.	.11 .12
Bees Wax, White, cases	lb.	.30 .34
Yellow refined cases	lb.	.21 .24
Yellow Crude Bags	lb.	.16 .17
Benzoin Gum, Siam, boxes	lb.	1.00 1.25
Sumatra, cases	lb.	.18 .20
Berberis Aquafolium Root, bags	lb.	.08 .09
Beth Root, bags	lb.	.08 .09
Black Indian Hemp Root, 100 lb bags	lb.	.10 .11
Blood Root, bags	lb.	.10 .11
Blueflag Root, bags	lb.	.12 .13
Boldo Leaves, bales	lb.	.12 .14
Boneset Herb, bales	lb.	.08 .09
Borage Flowers, bales	lb.	.17 .19
Broomtop Herb Cut, bales	lb.	.08 .09
Bryonia Root, bags	lb.	.09 .10
BUCHU LEAVES Short, 250 lb bales	lb.	.19 .20
Long bales	lb.	.75 .80
Buckbean Leaves, bales	lb.	.08½ .09
Buckthorn Bark, bags	lb.	.05 .06
Berries, bags	lb.	.29 .34
Burdock Root, bags	lb.	.07 .08
Seed bags	lb.	.30 ...
Burgundy Pitch, 110 stand gross for net	lb.	.08 .09
Imported	lb.	.10 .11
Calabar Beans, bags	lb.	.15 .16
Calamus Root, blchd cases	lb.	.23 .25
Unbleached, bags	lb.	*.07 .08*
Calendula Petals, imp bales	lb.	.45 .48
Calisaya Bark, bales	lb.	.17 .18
Powdered, bbls	lb.	*.22 .23*
Canary Seed, South America, bags	lb.	.03½ .04
Morocco	lb.	.03¾ .04¼
Turkish	lb.	.03¾ .04¼
Candelilla Wax, bags	lb.	.10 .12
Cannella Alba Bark, bales	lb.	*.25 .26*
Cannabis, U.S.P.	lb	.16 .23
Cantharides, Chinese, cases	lb.	1.00 1.05
Powdered, boxes	lb.	1.15 1.25
Russian, cases	lb.	No stocks
Powdered, boxes	lb.	No stocks
Caraway Seed, African, bags	lb.	No stocks
Dutch, 11 lb bags	lb.	.07¾ .08¼
Cardamon bleached, cases	lb.	*.88 .93*
Decorticated, cases	lb.	*.50 .52*
Carnauba Wax No. 1, 100 lb. bags	lb.	.23½ .24½
Cascara Amarga, *150 lb bbls*	lb.	*1.25 1.30*
So called bales	lb.	.25 .30
CASCARA SAGRADA, 1931 bark	lb.	.11 .12
1932 bark	lb.	.10 .11
New crop	lb.	.09 .10
Cascarilla Bark, quills, bales	lb.	*.65 .70*
Siftings, bbls		.50 ...
Cassia Batavia No. 1 bbls	lb.	.07½ .07¾
Shortstick, bales	lb.	.06 .06¼
Batavia No. 3, bales	lb.	.06¼ .07
China Select Rolls, cases	lb.	.02½ .03½
Broken, bales	lb.	.05½ .05¾
Saigon, thin	lb.	*.19½ .20*
Buds, cases	lb.	.17 .18
Fistula, baskets	lb.	*.07½ .09*
Catnip, Herb, bales	lb.	.15 .16
Celery Seed, bales		.36¾ .37
Ceresin Wax, White, bags	lb.	.10 .15
Yellow 200 lb. bags	lb.	.09 .12
Imp white 100 lb. bags	lb.	.21 .38
CHAMOMILE FLOWERS Roman, bales	lb.	.25 .28
Hungarian, cases	lb.	.14 .15
Charcoal Willow, powd, bbls	lb.	.06 .06½
Wood, powd, bbls	lb.	.04 .05
Chestnut Bark	lb.	.07 .08
Leaves bales	lb.	.05 .06
Chicle Gum, 200 lb. bales	lb.	.27 .30
Chiretta, bales	lb.	.12 .15
Cinnamon, Ceylon, No. 1, bales	lb.	.12 .14
No. 2 bales	lb.	.09½ .10
No. 3 bales	lb.	.11½ .12
Clover Tops, Red, bags	lb.	.09 .11
Cloves Zanzibar, 135 lb bbl	lb.	.10¼ .10¾
Cochineal, Black	lb.	.51 ...
Silver	lb.	.45 ...
Cohosh Root, Black, bags	lb.	.05 .06
Blue, bags	lb.	.06 .07
Colchicum Root, bags	lb.	.11 .13
Seed, bags	lb.	.60 .65
COLOMBO ROOT, bags	lb.	.05 .06
Colocynth Pulp, bales	lb.	.12 .13
Coltsfoot Leaves, bags	lb.	.06 .07
Comfrey Root, bags	lb.	.11 .12
Condurango Bark, bags	lb.	.09 .10
Coriander Seed, Morocco, bags	lb.	.06 .07
Bleached, bags	lb.	.08 .09
Corn Silk, bales	lb.	.05½ .06½
Cotton Root Bark, bales	lb.	.06 .07
Cowhage, 1 oz tins	lb.	1.00 ...
Cramp Bark so called bales	lb.	.06 .07
True, bags	lb.	.25 .27
Cranesbill Root, bags	lb.	.08 .09
CUBEB BERRIES, XX bags	lb.	.30 .31
Powdered, boxes	lb	.32 .33
Culvers Root, bags	lb.	.12 .13
Cumin Seed, Malta, bags	lb.	No stocks
Morocco, bags	lb.	.09½ .10
Cuttlefish, Bone Trieste, Straps	lb.	.19 .22
French, boxes	lb.	.18 .21
Powdered, bbls	lb.	.09 .10
Broken, bales	lb.	.07 ...
Damiana Leaves, bales	lb.	.15 .16
Dandelion Root, Imp. bags	lb.	.10 .11
Deer Tongue Leaves, bales	lb.	.07 .09
Digitalis Leaves, bales	lb.	.15 .17
Dogwood Bark, Jamaica bags	lb.	.07 .08
American bales	lb.	.06½ ...
Doggrass Root, USP, cut bags	lb.	.11 .12
Dragons Blood Mass, cases	lb.	.80 .85
Reeds, boxes	lb.	.85 .90
Echinacea Root, bags	lb.	.15 .16
Elcampane Root, bags	lb.	.05½ .06½
Elder Flowers, bags	lb.	.13 .14
Elemi Gum, 85 lb cases	lb.	.09½ .10
Elm Bark, bundles	lb.	.14 .17
Grinding bags	lb.	.08 .09
Powdered, bbls	lb.	.13 .16
Ephedra Vulgaris, bales	lb.	.05 .06
ERGOT, 150-200 lb bags	lb.	.32 .45
Eucalyptus Leaves, bales	lb.	.05 .06
Euphorbia Pilulifera, Herb, bags	lb	.05 .08
Euphorbium Gum, cases	lb.	.14 .20
Fennel Seed, French, bags	lb.	.06½ .07
German bags	lb.	.08 .09
Foenugreek Seed, 200 lb bags	lb.	.04 .04½
Fish Berries, 100-125 lb bag	lb.	.13 .15
Flax Seed, Whole *182 lb bbls*	lb.	*.05½ .06¼*
Ground, 180 lb bbls	lb.	.06 .07½
Fringe Tree Bark or Root bags	lb.	.10 .12
Fumigating Pastiles, boxes	lb.	.28 .30
Galangal Root, bags	lb.	.08 .09
Galbanum Gum, *cans*	lb.	*.85 .90*
Gamboge Gum, 100 lb cases	lb.	.50 .55
Powdered, cases	lb.	.65 .70
Gelsemium Root, bags	lb.	*.07 .08*
GENTIAN ROOT, bags	lb.	.12 .18
Ground bbls, boxes	lb.	.13 .19
Powdered, bbls, boxes	lb.	*.19 .20*
Ginger, African, bags	lb.	.05½ .06½
Jamaica Grinding bags	lb.	.10 .12
Cochin ABC & Lemon, bags	lb.	.07½ .07¾
Ginseng Root, cultivated cs	lb.	8.00 10.00
Wild Southern, cases	lb.	*11.00 13.00*
Golden Seal Root, bags	lb.	.65 .70
Powdered, boxes	lb.	.90 1.00
Herb, barrels	lb.	.35 .40
Grains of Paradise, bags	lb.	*.09 .11*
Grindelia Robusta, Herb, bale	lb.	.07 .08
Guaiac Gum, 150 lb cases	lb.	*.20 .22*
Strained 75 lb cases	lb.	.70 .75
Guarana, tin cases	lb.	.50 .55
Hellebore Root, Black, bbls	lb.	*.05½ .06*
White, 250 lb bbls	lb.	.07 .08
Powdered	lb.	.10 .11
Helonias Root, bags	lb.	.25 .27
Hemp Seed, bags	lb.	*.02¾ .03*
Henbane Leaves, USP, bales	lb.	.07 .08
HENNA LEAVES, bales	lb.	*.07 .08*
Powdered	lb.	*.09 .13*
Hops, bales	lb.	.30 .35
Horehound, Herb, bales	lb.	*.06½ .07*
Hydrangea Root, bales	lb.	.06 .07
IPECAC ROOT, Carteagna, bags	lb.	.75 .80
Powdered, 220 lb bbls	lb.	.90 .95
Nicaraugua. 125 lb. bags	lb.	.60 .65
Isinglass, American, 130 lb cases	lb.	.95 1.00
Russian (Beluga), boxes	lb.	4.50 ...
Jaborandi Leaves, bales	lb.	.10 .11
Jalap Root, Whole, 150 lb bag	lb.	.15 .16
USP, Powd, 250 lb bbls	lb.	.19 .20
Japan Wax 224 lb. cases	lb.	.06 .07
JUNIPER BERRIES, 125 lb bags	lb.	.05 .05½
Kamala, boxes	lb.	.19 .20
Karaya Gum, No. 1 Powdered, bbls	lb.	.11 .11½
Kava Kava Root, bags	lb.	.13 .14
Kino Gum, Black, cases	lb.	.50 .55
Kola Nuts, 150 lb bags	lb.	.05½ .06
Lady Slipper Root, bags	lb.	.28 .30
Larkspur Seed, bags	lb.	.25 .27
Laurel Berries, bags	lb.	.08 .09
Leaves, Greek, bags	lb.	.05 .06
Italian, bales	lb.	No stocks
Lavender Flowers, Ordinary	lb.	.16 .20
Selected	lb.	.26 .28
Lemon Peel, bags	lb.	.09 .10
LICORICE ROOT, Whole bbls	lb.	.12 .15
Spanish Natural bales	lb.	.05½ .07
Powdered, bbls	lb.	.08 .10
Selected Cases	lb.	.12 .15
Cutting, 125 lb bags	ln.	.06 .06½
Turkish, 150 lb bales	lb.	.05 ...
Linden Flowers with leaves, bales	lb.	.14 .15
Without leaves, bales	lb.	.15 .16
Liverwort Leaves, bales	lb.	.13 .14
Lobelia, Herb, bales	lb.	.18 .20
Seed, bags	lb.	.21 .26
Lovage Root, Imp., bags	lb.	.15 .17
Lupulin N. F., tins	lb.	1.60 1.65
Lycopodium, 88 lb. cases	lb.	.21 .23
MACE SIAUW, No. 1, cases	lb.	.28 .29
Banda No. 1, cases	lb.	.35 .36
Batavia No. 2, cases	lb.	.31 .32
Malva Flowers, Blue, bales	lb.	.55 .60
Black, bales	lb.	.20 .35
Leaves, bales	lb.	.12 .13
Manaca Root, bales	lb.	.20 .21
Manna, Large Flake, cases	lb.	.40 .45
Small Flake, cakes	lb.	.25 .30
Sorts, cases	lb.	.45 .50
Mandrake Root, bags	lb.	.08 .09
Marjoram, Herb French, No. 1 bales	lb.	.19 .20
German, bales	lb.	.16 .17
Mastic Gum, 120 lb. cases	lb.	.30 .32
Matico Leaves, bales	lb.	.19 .21
Mezereon Bark, bags	lb.	.15 .16
Millet Seed, Yellow, bags	lb.	.02½ .03
Montan Wax, Crude, bags	lb.	.04 .04½
Bleached, pure. bags	lb.	.25 .27
Moss, Iceland, bales	lb.	.09 .11
Irish, Bleached, bales	lb.	.10 .12
Mullein Flowers, tins	lb.	.90 .95
Leaves, bales	lb.	.07 .07½
Musk Root, Russian, bags	lb.	.06 .07
Myrrh Gum, 200 lb, cases	lb.	.20 .22
Nutgalls, Chinese, bags	lb.	.22 ...
Aleppy, bags	lb.	... .20
Powdered, bags	lb.	.13 .15
Nutmegs, 110's cases	lb.	*.11 .12*
75's & 80's cases	lb.	*.12½ .13*
Grinding, bags	lb	.18 .19
NUX-VOMICA Buttons, bag	lb.	.05 .06
Powdered, 200 lb bbls	lb.	.08 .09
Oak Bark, bags	lb.	*.05½* .06
Olibanum Gum, 280 lb cases Siftings	lb.	.06 .07
Tears, No. 1 Extra	lb.	*.19 .21*
No. 2	lb.	.13 .15
No. 3	lb.	.09 .10
Opium Gum, USP, cases	lb.	10.00 11.00
Granular, cans	lb.	11.00 12.00
Powdered, USP, cans	lb.	11.00 12.00
Orange Flowers, cases	lb.	*.25 .30*
Peel, Bitter, bags	lb.	.08 .09
Sweet bags,	lb.	.07 .08
ORRIS ROOT, *Flor. bid. bags*	lb.	.08 .09
Powdered, 200 lb bbls	lb.	.13 .14
Verona, bags	lb.	*.06 .07*
Powdered, 200 lb bbls	lb.	.11 .12
Fingers, boxes	lb.	.80 .85
Ozokerite Wax, Brown, Hard lb. Bags	lb.	*.24 .25*
Green, Hard, bags	lb.	.25 .27
Yellow, Refined, bags	lb.	.20 .25
Papain, Crude, 150 lb cases	lb.	*1.40 1.45*
Pure, Powdered, 10 lb bot.	lb.	1.50 1.55
Paprika, bags	lb.	.20 .23
Pareira Brava Root, bags	lb.	*.16 .18*
Passion Flower, bales	lb	.04½ .05½
Patchouli Leaves, bales	lb.	*.15 .16*
Pennyroyal, Herb, 100 lb bags	lb.	*.08 .09*
Leaves, 100 lb bags	lb.	.11 .12

Drugs and Spices

PEPPERMINT LEAVES, Imp bales	lb.	.30 .50
Domestic, bales	lb.	.18 .20
Pichi Leaves, bags	lb	.08 .09
Pimento Select, bags	lb.	.04½ .05
Pink Root, True, bags	lb.	.25 .27
Pleurisy Root, bags	lb.	.13 .14
Poke Berries, bags	lb.	.15 .16
Root, 200 lb bales	lb.	.05½ .06
Pomegrant Bark of Root, bags	lb.	.25 .28
Bark of Fruit, bags	lb.	.15 .20
Bark of Tree, bags	lb.	.15 .17
POPPY FLOWERS, Red, bags	lb.	.40 .45
Prickly Ash Bark	lb.	.12 .15
Southern bags	lb.	.11 .11½
Northern, bags	lb.	.12 .13
Berries, bags	lb.	.20 .21
Prince's Pine, bales	lb.	.15 .20
Psyllium Seed, Black, bags	lb.	.09 .11
Plantago Seed, Blonde, Bags	lb.	.05½ .07
Pulsatilla, Herb, bags	lb.	.10 .11
Pumpkin Seed, bags	lb.	.11 .12
Pyrethrum Flowers	lb.	.15 .16
Pwd., pure, 200 lb.bbls.	lb.	.19 .20
Quassia Chips, bags	lb.	.05 .06
Quebracho, bulk, 125 lb. bbl.	lb.	.20 .21
Quince Seed, Spanish bags	lb.	.80 .85
Persian, bags	lb	.90 .95
Rape Seed, South American, bags	lb.	No stocks
Dutch, bags	lb.	.05 .05½
Raspberries, Dried, bbls.	lb.	.25 .30
Red Saunders, bags	lb.	.08 .09
Rhatany Root, bags	lb.	.11 .12
Rhubarb Root, HD, cases	lb.	.17 .18
Powdered, bbls.	lb	.22 .23
Rosemary Leaves, bales	lb.	.05 .05½
Flowers, cases, bales	lb.	.28 .32
Rose Petals, pale	lb.	.13 .14
Red	lb.	.45 .50
Rue, Herb, bales	lb.	.18 .20
Sabadilla Seed, bags	lb.	.11 .12
Powdered, bbls.	lb.	.13 .14
SAFFRON FLOWERS, American, bales	lb.	.17 .18
Valencia, 1 lb cans	lb.	10.50 10.75
Sage Dalmatian, bales	lb.	.04¾ .05½
Sandarac Gum, 300 lb bbls.	lb.	.23½ .25
Sarsaparilla Root, Honduras, bales	lb.	.55 .60
Mexican, bales	lb.	.12 .13
Sassafras Bark, Ordinary, bales		.08 .10
Select, bales	lb.	.12 .15
Savory Leaves, bale	lb.	.05¾ .06¼
Saw Palmetto Berries, bags	lb.	.07 .08
Scammony Resin, boxes	lb.	1.30 1.35
Root, bags	lb.	.06 .07
Senega Root, bags		.35 .40
SENNA ALEX., 150 lb cases	lb.	.20 .25
Half leaf 150 lb bales	lb.	.08 .10
Sifting, 400 lb bales	lb.	.08 .09
Tinnevelly, Bold, 350 lb bales	lb.	.09 .11
Medium Leaf	lb.	.07½ .08½
Small Leaf	lb.	.06 .08
Pods, 350 lb	lb.	.08 .09
Powdered, 200 lb	lb.	.08 .09
Serpentaria Root, bags	lb.	.32 .33
Simaruba Bark, bales	lb.	.24 .26
Skullcap Leaves, Eastern, bales	lb.	.25 .30
Western, bales	lb.	.14 .24
Skunk Cabbage, Natural, bales	lb.	.13 .15
Snake Root, Canada Natural, bags	lb.	.16 .18
Canada, Stripped, bags	lb.	.40 .45
Soap Bark	lb.	.08 .09
Cut, 125-175 lb bags	lb.	.05 .06
Crushed, 200 lb bbls.	lb.	.15 ...
Powdered, bbls.	lb.	.09 .10
Spearmint Leaves, American, bales	lb.	.16 .17
Spermaceti, blocks, cakes, cases	lb.	.21 .23
Bulk	lb.	.20 .22
Spikenard Root, bags	lb.	.07 .08
Squaw Vine, bales	lb.	.11 .12
Squills, White, tested	lb.	.05 .07
Powdered, bulk	lb.	.13 .15
Stavesacre Seed, bags	lb.	.13 .14
Stillingia Root, bags	lb.	.06 .07
Stone Root, bags	lb.	.07 .08
St. Ignatius Beans, bags	lb.	... .90
St. John's Bread, bags	lb.	... .06
STRAMONIUM LEAVES, bales	lb.	.10 .11
Seed, bags	lb.	.07½ ...
Strophanthus Seed, Kombe, bags	lb.	1.60 1.80
Styrax Liquid, Artificial	lb.	.26 .35
Genuine, USP	lb.	.38 .43
Sunflower Seed, bags Calif.	lb.	.05 .06
South American, bags	lb.	No stocks
Tamarinds, bbls.	lb.	.05 .06
Kegs	keg	3.75 3.85
Tansy, Herb, bales	lb.	.12 .13
Thus Gum, 450 lb bbls.	lb.	.05½ .06½
THYME, Spanish, bales	lb.	.06 .07
French, bales	lb.	.07 .08
Tonga Root	lb.	.22 .25
Bark, bundles	lb.	.22 .25
Tonka Beans, Angostura Cases		1.40 1.50
Para cases	lb.	.60 .70
Surinam cases	lb.	.65 .75
Tragacanth Gum, No 1, 100 lb. cases	lb.	.65 .70
No. 2	lb.	.52 .57
No. 3	lb.	.42 .47
Powdered, 50 lb boxes	lb.	.60 .65
Turkish cases	lb.	.40 .60
Turmeric Root Madras, bags	lb.	.06 .06½
Aleppy bags	lb.	.05½ .06
Powdered	lb.	.10 .12
China bags	lb.	.11 .12
Turpentine Venice True, 80 lb cases	lb.	.30 .38
Artificial, 80 lb cases	lb.	.15 .16
Uva Ursi Leaves, bales	lb.	.04½ .05
Valerian Root, Belgium bags	lb	.14 .16
VANILLA BEANS, Mexican, whole, cases	lb.	3.00 4.00
Cuts, cases	lb.	2.40 2.60
Bourbon, cases	lb.	.70 1.20
Vetivert Root, 100 lb bags	lb.	.20 .25
Violet Flowers, bags	lb.	.80 .85
Wahoo Bark of Root, bags	lb.	.28 .30
Bark of Tree, bags	lb.	.13 .14
White Pine Bark, Roseed, bags	lb.	.05½ .06
White Poplar Bark, bags	lb.	.06 .07½
Wild Cherry Bark, Natural thin, Green	lb.	.06 .07
Rossed bales	lb.	.09 .10
Thick Rossed, bales	lb.	.04 .05
Wild Indigo Root, bags	lb.	.09 .10
Willow Bark, bags	lb.	.05 .06
White, bags	lb.	.15 ...
Witch Hazel Bark, bags	lb.	.05 .06
Leaves, bales	lb.	.06 .07
Wormseed, American, bags	lb.	.06 .07
Wormwood, Herb, Imp., bales	lb.	.08 .09
Yellow Dock Root, bags	lb.	.07 .08
Yerba Mate, bags	lb.	.15 .18
Santa, bags	lb.	.07 .08

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PATENTS

(Continued from page 276)

is saturated. Reaction is carried out in solvent which is not attacked by bromine, such as glacial acetic acid, carbon tetrachloride, chloroform, etc. When bromination is effected in chloroform with very fine suspension of diallylbarbituric acid, formation of hydrobromic acid is avoided. Thus 20 grams of diallylbarbituric acid are dissolved in hot chloroform and solution is then rapidly cooled to cause separation of small crystals. Then mixture of 15.4 grams of bromine and 50 grams of chloroform is run in gradually while cooling with ice. After all, bromine is absorbed, solution is allowed to remain for one hour while cooling in ice and then is filtered by suction. Product is washed in alcohol, then crystallized from alcohol. Crystals with very slight taste are recovered. E. Blank. French Patent No. 727,567, filed November 25, 1931.

Cyclic Hormones

Efficacy of hormone with formula, $C_{18}H_{24}O_3$, is substantially increased by converting hormone into another with formula, $C_{18}H_{22}O_2$ by action of dehydrating agents. Reaction may be accomplished by heating with potassium bisulfate, phosphorus pentoxide, etc., or by catalytic action when vapors of hormone are caused to pass over clay, bleaching earths and other very porous materials. Instead of pure hormone, $V_{18}H_{24}O_3$, oils or preparations which contain it may be treated. For example 12 mgm. of cyclic hormone of first formula are mixed with melted potassium bisulfate. Entire mass is placed in retort and heated at pressure of 0.02 mm. mercury for two hours at 110° C.: then for five hours at 180 to 200° C. After temperature reaches 180° C., hormone sublimes and deposits within retort and is extracted with alcohol. Schering-Kahlbaum, Berlin, Germany. French Patent No. 726,942, filed November 26, 1931.

Solid Cosmetics

Pyrazolone is made to combine with other substances with result that crystalline structure of original material is modified. New product is soft preparation with particularly, excellent properties as regards penetration, absorption, etc. into skin and other membranes. Thus aqueous-alcoholic solutions of phenyldimethylpyrazolone, for example, or also emulsions of same in presence of or in absence of mineral substances, have been successfully used for making cosmetics. New preparations of parahydroxypyrazolone or its derivatives are proposed for use in solid cosmetics. Any sort of gelatinizing agent may be employed in making these preparations. For example alkali salts of higher fatty acids, either in chemically pure state or in the state in which they are extracted from natural glycerides, may be used. Best results are obtained from saturated fatty acids, such as palmitic avid, oleic acid, etc. Proportions used vary. Aqueous-alcoholic solution of phenyldimethylpyrazolone is preferably employed, in which the acid is introduced before molecularly neutralizing latter in presence of an indicator. Mass is then run into forms of any desired shape. Hubert Jahard, France. French Patent No. 729,982, filed April 1, 1931.

Cyclopentenyl Esters

Various esters of delta-cyclopentenyl acetic acid and like are produced. These acids are esterified with aliphatic or aromatic alcohols or with phenols to give products which are useful for hygienic and perfume purposes. In case of aliphatic and primary or secondary aromatic alcohols, mixture of acid and alcohol is heated in vessel, provided with reflux condenser, in presence of small quantity of strong mineral acid, which acts as catalyst. In esterifying a tertiary alcohol or other alcohol, sensitive to acids and to high temperatures, chloride or anhydride of acid is employed and allowed to act on alcohol in cold in presence of an organic base. Numerous examples are cited. Compagnie de Bethune, Pas-de-Calais, France. French Patent No. 728,998, filed March 6, 1931.

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